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BEST SELECTED ABSTRACTS ORAL

ES30-0020 -

Best Selected Abstracts 1

Augmented reality in gynaecological oncology. Raising the curtain on cancer. Does this puzzle become clearer?

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Background

We describe progress of the general concept of "augmented reality" in minimal invasive gynaecologic surgery during the last decade and we highlight potential benefits of this breakthrough technology in gynaecological oncology. The main questions are whether we need to invest more time, more funding and hopes on this innovative step and which are the clinical limitations of this project.

Methods

Review of literature.

Results

"Augmented reality" is a new guidance technology used in the medical field quite recently. As a general concept it allows a surgeon to see subsurface structures in an endoscopic video. During the last decade attempts have been made to incorporate this technology in minimally invasive gynaecology, initially as an experimental learning tool and eventually as a live interactive imaging for assisting laparoscopic and robotic surgeons. "AR" has been initially tested in gynaecologic surgery with a very mobile organ like the uterus. This technology works by overlaying information from another modality, such as magnetic resonance imaging (MRI) and fusing it with the endoscopic images. The objective was to identify the hidden pathology below the surface of the uterus and automatically detect the location and size of this pathology. At this point, we are able to detect in real time endoscopy the location of uterine myomas so that we attempt to extend our knowledge over the localization of more complex structures like cancerous tumors. Currently, such systems offer limited interactivity, due to high complexity of developing real time registration, taking organ deformation, operative complications (such as bleeding) and human movement into account. Nowadays effort is placed on overcoming these difficulties, so that we carve the way towards a future in which technology will enhance the surgical expertise of the oncologic surgeon. The goal is simple: to create a real time environment where surgeon can automatically see and remove all malignant lesions, retaining at the same time the healthy structures such lymph nodes and nerves.

Conclusions

"AR" technology can greatly benefit the gynaecological oncology as human surgical expertise and technology have complementary strengths when combined. Potential future evolution seems limitless, even though there are numerous issues and technical difficulties that still haven't been tackled so that this technology is integrated in the oncologic clinical routine.

Vaginal assisted Natural Orifice Transluminal Endoscopic Surgery (NOTES) hysterectomy in The Netherlands

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Background

Natural Orifice Transluminal Endoscopic Surgery (NOTES) is a minimally invasive surgical technique that uses natural orifices of the human body to get access to the abdominal cavity, for example through the vagina (vNOTES). The Vaginal Assisted NOTES Hysterectomy (VANH) is being performed in the Zuyderland Medical Centre since August 2019.

The advantages of this new technique are less postoperative pain, no visible scars, shorter surgery time and more women treated in a daycare-setting compared to a laparoscopic hysterectomy.¹ This abstract presents the results of the first 75 VANH in The Netherlands.

Methods

This is a prospective data collection of patients who underwent a VANH between August 2019 and March 2021 in the Zuyderland Medical Centre. Patient-related characteristics, operative characteristics and post-operative recovery were registered and analyzed.

Results

In this period 75 VANH procedures were performed. Indications were heavy menstrual bleeding (56%), cervical dysplasia (26.7%), uterus myomatosis (6.7%), abdominal pain (6.7%) and post-ablation syndrome (4%). The mean age was 43 years (range 25-75 years) and mean BMI was 26.3 kg/m² (range 17.9-50 kg/m²).

The mean surgical time was 61 minutes (SD 21 minutes) with a range of 37-192 minutes and the mean blood loss was 71 mL (SD 67 mL). Same day discharge was achieved in 57.1% of the patients. No conversions have been performed. The intra-operative complication rate was 1.3 % (n=1 (cystotomy) according to Clavien Dindo grade 3), and 9.3 % postoperative complications (n=5 (urinary tract infection, vault hematoma and obstipation) grade 1-2 Clavien Dindo, and n=2 (post-operative hemorrhage) grade 3B according to the Clavien Dindo classification²).

Conclusions

This abstract shows the results of the first 75 VANH procedures in the learning curve of two experienced surgeons in The Netherlands with a mean surgical time of 61 minutes and 57.1% same day discharge. These results support the benefits of this new innovative technique. Intra-operative complication rate of 1.3% in this study was comparable with 1.4% in the cohort of 1000 cases as described by Baekelandt recently.³

Randomized controlled trials are needed to gain insight into potential benefits, harms reproducibility, indications and cost-benefit analysis before vNOTES can be offered as standard surgery in daily practice.³

¹Baekelandt JF, De Mulder PA, Le Roy I, Mathieu C, Laenen A, Enzlin P, et al. Hysterectomy by transvaginal natural orifice transluminal endoscopic surgery versus laparoscopy as a day-care procedure: a randomised controlled trial (HALON trial). *BJOG* 2019;126:105-11

²Dindo D, Demartines N, Clavien PA. Classification of surgical complications: a new proposal with evaluation in a cohort of 6336 patients and results of a survey. *Ann Surg* 2004; 240(2):205-213

³Baekelandt JF, Kapurubandara S. Benign Gynaecological procedures by vaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES): Complication data from a series of 1000 patients. *European Journal of Obstetrics & Gynaecology and Reproductive Biology* 256 (2021) 221-224

Endometrial cancer prognosis in women with endometriosis and adenomyosis. A retrospective nationwide cohort study of 40,847 women

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Background

The effect of endometriosis/adenomyosis on the prognosis of its related endometrial cancer remains unclear. Previous studies show small sample sizes and are rarely correct for confounders. Therefore, we aim to compare endometrial cancer survival in women with or without histological proven endometriosis or adenomyosis.

Methods

Women with endometrial cancer between 1990-2015 were identified from the Netherlands Cancer Registry (NCR). This data was linked to the Dutch nationwide registry of histopathology and cytopathology (PALGA) to select all women with histological proven endometriosis or adenomyosis. Overall survival was compared between women with endometrial cancer with or without endometriosis/adenomyosis. We used multivariable Cox proportional hazard analysis to estimate hazard ratios (HRs) with 95% confidence intervals (CI).

Results

We included 1,708 women with endometrial cancer and histologically proven endometriosis or adenomyosis and 39,139 women without endometriosis/adenomyosis. Women in the endometriosis/adenomyosis cohort were younger at endometrial cancer diagnosis, had earlier disease stage, more often had endometrioid endometrial cancer and more often had low grade tumours. The 5-year survival rate in the endometriosis/adenomyosis cohort was 84.8% (95%CI 84.6-88.1) and 71.6% (95%CI 71.1-72.0) in the control cohort, $p < 0.0005$. Univariate analysis resulted in a crude HR for overall survival of 0.63 (95%CI 0.59-0.69). Significant confounding factors were age, stage, histological endometrial cancer subtype, histological grading, surgery and chemotherapy rate. Correction for these confounders resulted in a HR of 0.98 (95%CI 0.90-1.06), $p = 0.867$. Including endometriosis/adenomyosis as a categorical factor did not result in statistically different results.

Conclusions

Women with endometrial cancer and histologically proven endometriosis/adenomyosis have a better overall survival when compared to women with endometrial cancer without endometriosis/adenomyosis. This better survival is correlated to stage, grade, age, and histology, but not to the presence of endometriosis/adenomyosis.

Feasibility and patient satisfaction of the use of virtual reality during office hysteroscopy

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Background

Hysteroscopy is the gold-standard procedure for the assessment and treatment of intrauterine benign pathology. Despite the effectiveness and safety rates of office hysteroscopy (OH), some patients feel moderate to severe pain, representing the first cause of therapeutical failure.

During the last decade different non-pharmacological options, such as music, hypnosis or virtual reality (VR), have been studied for pain reduction during OH with variable results. VR environments have already been used successfully to reduce pain on different situations such as chronic pain, burn injuries, dental procedures, chronic pruritus or venous punctures. Our objective is to demonstrate the feasibility and satisfaction of the patients with the use of VR during OH.

Methods

We present the results of the first 73 patients of a single center, parallel group, prospective randomized clinical trial designed to evaluate the effect of VR environments on pain and anxiety levels during OH. Patients were randomly assigned in a 1:1 ratio to the VR group, with a pre-procedural mindfulness VR session plus an office hysteroscopy under a VR environment, or to the control group, with an office hysteroscopy performed as hospital standards.

Pain was evaluated during and after the procedure by a 11 points visual scale ranging from 0 to 10. Patients were given a satisfaction survey after the procedure to evaluate their feelings using virtual reality.

Results

Age range went from 27 to 68 years. Mean pain score during the procedure was 4.57 (SD 2,44) for the VR group and 5,16 (SD 3,03) for the control group; after the procedure main pain score was, respectively, 2,27 (SD 2,45) vs 3,27 (SD 2,57). Even main pain scores were lower in VR group than control group during and after the procedure, statistical significance was not achieved ($p=0,369$ and $p=0,134$ respectively).

Regarding satisfaction, 94,5% of patients were satisfied with de OH procedure and 97,15% of the VR group patients told the VR glasses were very comfortable or comfortable.

Among VR users, satisfaction rate about the pre-OH mindfulness session was 93,75%. Overall patient reported satisfaction rates were high among VR users, with 87,5% being satisfied or very satisfied with the VR experience and 78,12% of the patients affirmed that they would repeat the procedure with the VR support.

The main adverse event was light nausea at some point of the procedure (12,5% of VR users), but without effect on satisfaction rates"

Conclusions

Despite the absence of statistically significant differences in the pain score evaluation, an overall high satisfaction in the use of VR suggest that it is a feasible and well tolerated option to apply during office hysteroscopy.

The feasibility of vNOTES technique in gynaecological emergencies and its comparison with conventional laparoscopy

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Background

This study aims to investigate the feasibility of vaginal natural orifice transluminal endoscopic surgery (vNOTES) and its comparison with conventional laparoscopy (CL) in gynaecological emergency cases.

Methods

A cross-sectional study was conducted comparing vNOTES with CL using medical records of women operated for gynaecological emergency indications from January 2019 to April 2021 at our tertiary referral hospital. Ethical approval was obtained from the Institutional Review Board and Local Ethics Committee. The emergency indications included ectopic pregnancy, ovarian torsion, ovarian cyst rupture, and acute abdominal pain. Informed consent was obtained from all patients.

Results

The study included 125 women. Age and indication matched groups were created considering 2:1 paired sampling method for CL and vNOTES groups. 35 of them were excluded from the study due to age, insufficient data, and surgical indications. Among the remaining 90 women, 60 women underwent CL while 30 women had vNOTES procedure. The vNOTES group had significantly lower duration of surgery (28.5min (15-48) vs. 77min (29-155), $p<0.001$ respectively), shorter hospital stay (32 hours (11-125) vs. 38hours (12-201), $p=0.007$ respectively), lower 6th hour VAS (5 (4-7) vs. 6 (2-8), $p<0.001$ respectively), 12th hour VAS (2 (1-3) vs. 2 (1-5), $p<0.001$ respectively) and the number of postoperative analgesic administration (2 times (2-3) vs. 3 times (1-5), $p<0.001$ respectively) than the CL group. A 1:1 propensity score matching model analysis was used. The duration of surgery, length of hospital, the 6th hour-VAS, 12th hour VAS and the number of postoperative analgesic administration were remained significantly lower in vNOTES group than the CL group.

Conclusions

There is lack of information in literature about in gynaecological emergency cases comparing conventional techniques and vNOTES in regards to operative outcomes. Our study showed that vNOTES is a feasible technique having significantly lower duration of surgery and shorter hospital stay, lower 6th hour and 12th hour VAS score and lesser need of analgesic administration than CL providing a more comfortable recovery process for the patient.

Near-infrared imaging with indocyanine green for the treatment of endometriosis: the final results from the Gre-endo trial

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Background

The primary objective of the study was to evaluate the sensitivity (Se), specificity (Sp), positive and negative predictive value (PPV and NPV) of Near InfraRed-Indocyanine Green (NIR-ICG) vision in the identification of endometriotic lesions.

The secondary objectives were to identify the power of NIR-ICG vision in the detection of occult endometriotic lesions (OcL) and the power of the test by combining the two vision methods (white light (WL) plus NIR-ICG). In addition, we evaluated the possible occurrence of intra or post-operative complications related to the ICG infusion or the experimental plan.

Methods

Prospective, single arm study. Patients with suspected deep infiltrating endometriosis with surgical indication were enrolled in the study.

After an initial evaluation of the operating field with WL mode, patients were injected 0.25 mg/kg ICG intravenously and an accurate exploration was performed in NIR mode.

All suspicious areas were classified and recorded based on lesions displayed only in WL, NIR-ICG or combination of both.

Lesions displayed only through the NIR-ICG camera were considered as suspected occult lesions (s-OcL).

All the lesions removed were considered as "suspected endometriosis" until confirmation of the pathology

Results

Fifty-one patients were enrolled. Forty-five patients had an intra-operative stage III/IV assignment according to the revised American Fertility Society (rAFS) classification.

Two hundred and seven lesions (207/240, 86.2%) were visualised with WL imaging and 200 were confirmed as pathological (true positive for WL). The remaining 33 lesions (33/240, 13.75%) (false negative for WL) were identified with NIR-ICG imaging only and recorded as s-OcL.

All 33 removed s-OcL were confirmed as pathological (confirmed occult lesion, c-OcL = 100%) (Table 1).

Variables	WL visualization	Overall visualization(WL plus NIR-ICG)	Overall Pathology (WL plus NIR-ICG)	True Positive for WL	False Positive for WL	False Negative for WL(s-OcL)	c-OcL
Retro-cervical nodule	35	42	41	34	1	7	7
USL nodule	62	65	64	61	1	3	3
Peri-ureteral/ovarian fossa nodule	20	31	31	20	0	11	11
Sigma-rectum nodule	26	30	30	26	0	4	4
TOTAL	207	240	233	200	7	33	33

NIR-ICG vision showed a PPV of 98.5%, a NPV of 87.1%, a Se of 87%, and a Sp of 98.5%, confirming this kind of imaging as an excellent diagnostic and screening test (McNemar test: p=0.001, Cohen kappa tests=0.835).

Nine patients (17.6%) had postoperative complications not attributable to the ICG infusion or the experimental plan.

Conclusions

The use of NIR-ICG vision alone and combined with WL in endometriosis surgery has shown promising results in the modulation of fluorescence-guided surgery.

Additionally, NIR-ICG allowed surgeons to remove occult lesions that would otherwise have remained undetected, leading to the possible persistence of preoperative symptoms or a greater risk of relapse.

Wearable technology for predicting the quality of surgical performance and workload in gynaecological laparoscopic surgery

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Background

The objectives of this study are to present the first steps and results towards the development of a machine learning (ML) algorithm to predict surgical performance and workload during gynaecological laparoscopic procedures.

Methods

This study was conducted during two training courses in laparoscopic gynaecology. Tubal ligations and oophorectomies were performed and recorded. Surgeons wore a smartwatch on their dominant hand with a custom application running on it in order to acquire motion data and heart rate. At the end of each procedure, participants were asked to complete the Surgery Task Load Index (SURG-TLX), a subjective questionnaire to evaluate the surgical workload. Surgical procedures were also rated using the Global Operational Assessment of Laparoscopic Skills (GOALS) method, a tool for objective evaluation of surgical performance. Correlations between the surgeons' physiological and kinematic parameters, surgical workload, and quality of surgical performance were analyzed. Finally, a principal component analysis (PCA) was conducted in order to reduce the number of features in the analysis.

Results

Thirteen novel gynaecologists participated in this study with a total of nineteen procedures performed. Surgeons showed a negative correlation between the depth perception and hand accelerations on the Z-axis (orthogonal to the sphere of the smartwatch). No statistically significant differences were found in the GOALS score or in the SURG-TLX between oophorectomies and tubal ligations. The first five principal components obtained in the PCA explain 91.14% of the variability of the data, besides, by plotting the subjects as a function of the first two principal components a differentiation between procedures could be expressed as a variation of the first principal component.

Conclusions

Preliminary results showed that surgical workload and performance within novel gynaecologist is independent of the surgical task. Surgeons with better depth perception scores led to fewer hand accelerations on the Z axis. Principal component analysis showed a promising setup in which an ML classification algorithm could be implemented. More data is needed to build a more accurate classification model.

Jain point: A viable option in contra-indications of Palmer's Point: A ten years study

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Background

Laparoscopic entry remains a challenge, more so if the patient has already had a previously scarred abdomen. Palmer's point is the most preferred non-umbilical laparoscopic entry port in these situations. This has enjoyed almost fifty years of usage since it was first published in 1974. But as the complexities of surgical indications, number of previous surgical scars kept increasing, many contraindications of Palmer's point emerged which daunted the practicing laparoscopic surgeons. The dilemma of which port to be used in the face of limitations of Palmer's point, also existed. To overcome these limitations, two more non-umbilical ports were introduced but again they were in the upper quadrant namely the Lee Huang point and 9th Intercostal Space. The limitations of palmer's point were all related to upper quadrant namely bloated stomach, suspected adhesions in upper abdomen due to surgical scars or previous infective pathologies, hepatosplenomegaly and large masses in upper quadrant. So to avoid the upper abdomen adhesions, we introduced a para umbilical left lateral port, the Jain Point. We moved lower down and laterally at level of umbilicus to avoid all above contraindications. Being at mid abdomen and lateral we can avoid adhesions associated with upper abdomen scars and masses, at umbilical and adhesions of lower abdomen midline, vertical or low Pfannenstiel incisions.

Methods

We utilized Jain Point in 8059 cases, out of which 2345 cases were with one or multiple surgeries, laparoscopic or open procedures. Jain Point is located on a line drawn 2.5cm from ASIS, at level of umbilicus, making it at least 10-13 cm from umbilicus. First the veress needle and then 5 mm trocar is inserted at Jain Point, which optimizes the entry of 10 mm telescope port according to mandate of the case. All cases were entered in likewise manner irrespective of Age, BMI, previous scars. Rather than being redundant it then continues as the ergonomic main working port from the left side, all through the surgery.

Results

There was one bowel injury and no other major complication of vessel, viscera, adhesion. Minor complications like under or overshoot of veress in initial learning curve of about 8-10 cases. There were no reported incidence of bleeding at the port site. In the 10 years study period, there were no cases of port site hernia.

Conclusions

Jain Point appears to be a viable, first blind port in cases of previous surgeries and also, those with contraindications of Palmer's point. It then continues as the main ergonomic working port all through the surgery. Easy entry technique, short learning curve, low complication rate makes it a suitable option.

Histopathological diagnosis of adenomyosis and hypertensive disorders of pregnancy: results from a retrospective Dutch national population based study

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Background

Hypertensive disorders of pregnancy are thought to arise from impaired implantation and placentation due to defective spiral artery development and remodelling in the uterine junctional zone. Adenomyosis is known to lead to disruption in this same junctional zone, and several recent studies have suggested a link between adenomyosis and hypertensive disorders in pregnancy. Currently, there are no large scale studies investigating obstetric outcomes in women with a histopathological diagnosis of adenomyosis.

Methods

This retrospective population based study used several national databases, in order to compare pregnancy outcomes in women with a histopathological diagnosis of adenomyosis to those in the general Dutch population.

Women with registered pregnancy outcomes in the Dutch national Perined registry, who received a histopathological diagnosis of adenomyosis (post hysterectomy) between 1995 to 2018, as registered in the Dutch national PALGA registry (*Pathologisch-Anatomisch Landelijk Geautomatiseerd Archief*), were included. The obstetric outcomes of these women were compared to those of the general Dutch population.

Both the Perined and PALGA databases collect anonymous patient details. In order to link both anonymous databases to one combined dataset, the Dutch Central Statistics Bureau (CBS) was used.

A multivariate regression analysis was conducted to calculate adjusted Odds Ratios (OR) and 95% confidence intervals for the following outcomes: hypertensive disorder of pregnancy (HDP), preeclampsia, HELLP, Eclampsia, foetal growth restriction (FGR), small for gestational age (SGA). The outcomes were corrected for: maternal age, parity, ethnicity, year of registered birth, induction of labour, HDP in previous pregnancy, multiple gestation and low socioeconomic status.

Results

Pregnancy outcomes of 7,925 women with a histopathological diagnosis of adenomyosis were compared to 4,615,803 women without adenomyosis. When corrected for the aforementioned confounders, women with histopathological adenomyosis had an aOR 1.370 (95% CI 1.25-1.498) for HDP, an aOR of 1.373 (95% CI 1.248-1.510) for preeclampsia, aOR of 1.15 (95% CI 1.067-1.248) for a small for gestational age (SGA) fetus at birth. No significant difference was found for presence of HELLP or eclampsia.

Conclusions

Women with a histopathological diagnosis of adenomyosis after hysterectomy show an increased prevalence of hypertensive disorders of pregnancy compared to the general population. This risk still remains after correcting for common confounders.

Uterine septum with or without surgical management: clinical implications on fertility and obstetrics outcomes. A systematic review and meta-analysis of observational research

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Background

Different studies evaluated the correlation between uterine septum and the reproductive outcomes. Debate is still ongoing on reproductive outcomes of uterine septum on infertile patients and especially on patients with recurrent miscarriage (RM), leading to an unanswered question whether or not these women should be treated. The aim of our study was to evaluate the current body of evidence on the impact of septate uterus on pregnancy rate (PR), live birth rate (LBR), first- or second-trimester spontaneous abortion (SA) and preterm labour (PL). Moreover, we evaluated the possible benefit of hysteroscopic metroplasty on the same clinical outcomes.

Methods

Systematic review and meta-analysis evaluated the clinical impact of uterine septum and its metroplasty on reproductive and obstetrics outcomes. The meta-analysis included study with infertile patients or with a history of RM. Primary outcomes: PR and LBR. Secondary outcomes: SA and PL. The meta-analysis was written following the PRISMA guidelines. Endpoints were evaluated in three subgroups: 1) infertile/RM patients with septum versus no septum 2) infertile/RM patients with treated versus untreated septum 3) infertile/RM patients before-after septum removal. Odds-ratios (OR) with 95% confidence intervals (CI) were calculated for outcome measures. Random-effect meta-analysis was performed and a p-value less than 0.05 was considered statistically significant.

Results

Data from 38 articles were extracted. In the first subgroup (10 studies), a lower PR and LBR were associated with septate uterus vs. controls, respectively (OR 0.45, 95% CI 0.27 to 0.76; $p < 0.0001$; low-heterogeneity and OR 0.21, 95% CI 0.12 to 0.39; $p < 0.0001$; small-heterogeneity) and a higher proportion of SA and PL was associated with septate uterus vs. controls, respectively (OR 4.29, 95% CI 2.90 to 6.36; $p < 0.0001$; moderate-heterogeneity and OR 2.56, 95% CI 1.52 to 4.31; $p = 0.0004$; low-heterogeneity). In the second subgroup (9 studies), PR and PL were not different in removed vs. unremoved septum, respectively (OR 1.10, 95% CI 0.49 to 2.49; $p = 0.82$; moderate heterogeneity and OR 0.81, 95% CI 0.35 to 1.86; $p = 0.62$; moderate-heterogeneity) and a lower proportion of SA was associated with removed vs. unremoved septum (OR 0.47, 95% CI 0.21 to 1.04; $p = 0.001$; substantial-heterogeneity). In the third subgroup (19 studies), the proportion of LBR was higher after the removal of septum (OR 49.58, 95% CI 29.93 to 82.13; $p < 0.0001$; moderate-heterogeneity) and the proportion of SA and PL was lower after the removal of septum, respectively (OR 0.02, 95% CI 0.02 to 0.04; $p < 0.000$; moderate-heterogeneity and OR 0.05, 95% CI 0.03 to 0.08; $p < 0.000$; low-heterogeneity).

Conclusions

The results of this meta-analysis confirm the detrimental effect of uterine septum on PR, LBR, SA and PL and his treatment reducing the rate of SA. Metroplasty should still be considered as good clinical practice in patients with a history of infertility and recurrent abortion.

Usefulness of videos and music for reducing anxiety and pain during in-office hysteroscopy. Preliminary data from a randomized trial

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Background

The administration of pharmacological and non-pharmacological aids during in-office hysteroscopic surgery is often used to both relieve the patient from discomfort and facilitate the operator in performing the procedure. We aimed to test the hypothesis that watching a video clip or listening to music would act as non-pharmacological relief for reducing anxiety and pain during in-office hysteroscopy.

Methods

A parallel-group, single-blind randomized clinical trial conducted at a Tertiary University Hospital between November 2020 and March 2021. Premenopausal and postmenopausal women with an indication for in-office operative hysteroscopy were considered eligible and were randomized in a 1:1 ratio to either watching a patient-selected video clip (group V), piece of music (group M), or standard vocal-local approach (group L). Primary endpoints were: preoperative and postoperative anxiety, evaluated by means of State-Trait Anxiety Inventory (STAI) questionnaires Y1 and Y2; post-hysteroscopic pain, evaluated using a 1-10 Numeric Rating Scale (NRS). In-office hysteroscopic procedures were conducted using a 5mm continuous flow Bettocchi Office Hysteroscope (Karl Storz Endoscopy, Tuttlingen, Germany) using a vaginoscopic, no-touch, approach. One-way ANOVA with posthoc Tukey honestly significant difference was used for comparison of continuous variables.

Results

60 women who agreed to take part in the study were randomized and included in one of the 3 groups. 20 patients were randomized in group V, 20 in group M and 20 in group L. There were no patients lost during data collection. STAI Y2 and Y1 before hysteroscopy showed a similar level of anxiety between groups. After the procedures, the anxiety traits evaluated with STAI Y1 showed reduced a statistically significant lower level of anxiety for group V compared to group M and L respectively (39.2 ± 3.4 vs 42.7 ± 5.5 vs 45.4 ± 5.7 ; $p= 0.02$). Post-hysteroscopic pain did not differ between video, audio, and vocal-local groups (NRS 6.1 ± 1.8 vs 5.6 ± 2.0 vs 6.1 ± 2.8 respectively, $p=0.75$). Moreover, there were no differences concerning the difference between expected and referred pain before and after the procedure (Δ NRS 1.5 ± 0.2 vs 2.0 ± 0.6 vs 1.7 ± 0.8 for group V M and L respectively; $p= 0.54$)

Conclusions

Watching a video clip during the procedure could be a helpful non-pharmacological way to reduce anxiety related to in-office hysteroscopy. However, along with listening to music, it might have no impact on reducing pain experienced during the hysteroscopic procedure if compared to a standard vocal-local approach.

Short-term outcomes of transvaginal natural orifice transluminal endoscopic surgery for sacrocolpopexy with an ultra-lightweight titanium-coated polypropylene mesh

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Background

To describe the short-term outcomes of transvaginal natural orifice transluminal endoscopic surgery (vNOTES) for sacrocolpopexy (SC) with an ultra-lightweight titanium-coated polypropylene mesh for the treatment of uterine prolapse.

Methods

We retrospectively collected data on all cases of vNOTES for SC with an ultra-lightweight titanium-coated polypropylene mesh for uterine prolapse between May 2018 and May 2020. Patient characteristics, perioperative outcomes and complications were collected. Patients were followed up with the Pelvic Organ Prolapse Quantification System (POP-Q) score, Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire short form (PISQ-12). The primary aim was the mesh exposure. The secondary aims included the quality of life, sexual activity and POP recurrence.

Results

A total of 55 patients were included. During 13-36 months of follow-up, the total rate of mesh exposure was 2 of 55 (3.6%). The total rate of recurrence was 3 of 55 (5.5%). There were no repeat surgeries or retreatment with pessary for prolapse recurrence. The mean pre- and postoperative PFDI-20 score was 38.64 ± 14.74 and 32.27 ± 10.88 , respectively ($P < 0.05$), and the mean pre- and postoperative PISQ-12 score was 50.07 ± 5.85 and 49.73 ± 10.23 , respectively ($P > 0.05$).

Conclusions

The study demonstrates that vNOTES for SC performed with an ultra-lightweight titanium-coated polypropylene mesh appears to be an effective and safe surgical method with a low risk of mesh exposure and a low rate of recurrence. More patients and longer follow-up periods should be included before a clear conclusion can be reached.

The outpatient one-step diagnosis and treatment of congenital mullerian anomalies

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Background

The aim of this study is to evaluate the feasibility of a novel outpatient approach requiring only one step for diagnosis and treatment of congenital Mullerian anomalies.

Methods

This is a single center prospective cohort study conducted at University of Naples Federico II between July 2020 and April 2021. We included women (aged 18-40) with a suspected diagnosis of congenital mullerian anomalies (Dysmorphic Uterus or Septate uterus) and meeting at least one of these criteria: history of long-standing unexplained infertility, recurrent implantation failure (RIF), and/or recurrent pregnancy loss (RPL). All the included patients underwent 3D sonography immediately before and after outpatient hysteroscopic metroplasty, in order to reduce the number of outpatient accesses and the time for conceiving. According to ESHRE/ESGE classification, the evaluation of a septate uterus required the measurement of interostial line, depth of the septum and residual myometrial thickness; dysmorphic uterus required the measurement of interostial outline, isthmic diameter and their ratio, and lateral angles. A second surgical step was performed if necessary. An anti-adhesion barrier gel has been applied after all procedures.

Results

46 women with uterine malformations were enrolled, 31 with uterine septum and 15 with dysmorphic uterus (7 T-Shaped uterus, 3 Y-shaped uterus and 5 tubular uterus). One step approach has been possible in all cases. No intra and post-operative complications are recorded. An improvement of the volume and morphology of the uterine cavity has been observed after all metroplasties for dysmorphic uterus; moreover, no residual septum has been recorded after metroplasty for septate uterus, with depth of residual septum 1.2 +/- 1 mm.

Conclusions

This novel one-step approach for diagnosis and treatment of congenital mullerian anomalies is safe and feasible in outpatient setting; it could be considered a powerful and useful tool to reduce the number of hospital accesses and the time to conceive.

Hysteroscopic resection vs blind dilation and curettage (D&C) for treatment of cesarean scar pregnancy: a randomized clinical trial

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Background

To compare the success rate of hysteroscopic resection vs dilation and curettage (D&C) for treatment of cesarean scar pregnancy (CSP).

Methods

Parallel-group randomized clinical trial conducted from February 2020 to February 2021 (Clinicaltrials.gov#NCT04205292) at a single center in Italy. Inclusion criteria were women with singleton CSP and positive embryonic/fetal heart activity, gestational age <8 weeks and 6 days at the time of randomization, and thickness of myometrial layer ≥1mm. Patients were randomized 1:1 to receive either hysteroscopic resection or D&C. In both groups, 50 mg/m² (based on DuBois formula for body surface area) of methotrexate (MTX) was injected intramuscularly at the time of randomization (day 1) and another dose at day 3. A third dose of MTX was planned in case of persistence of positive fetal heart activity at day 5. Women received D&C or hysteroscopic resection using 15 Fr bipolar miniresectoscope from 3 to 7 days after the second or third dose of MTX. Ultrasound guidance was used in both groups, if needed. The primary outcome was the success rate of the treatment protocol, defined as no further treatment required until the complete resolution of the CSP. A sample size of 54 women was planned.

Results

After one year of enrollment an interim analysis was performed, and 17 women were included. Success rate was 100% in the hysteroscopic resection group and 75.0% in the D&C group (OR 7.31, 95% CI 0.30 to 178.57) (Table).

	Hysteroscopic resection N=9	D&C N=8
Success rate	9(100%)	6(75.0%)
Failure rate	0	2 (25.0%)*
Hysterectomy	0	1 (12.5%)
Intraoperative complications	1(11.1%)**	0
Length of stay(days)	11.5±3.6	10.8±2.7

*One hysterectomy, and one laparotomic uterine segmental resection

**Hemorrhage >500 mL

Conclusions

Hysteroscopic resection was associated with increase in success rate of treatment of CSP, even if the statistical significance was not reached in this preliminary analysis.

Minimally-invasive pelvic exenteration: a survival analysis

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Background

Pelvic exenteration for recurrent and persistent gynaecological malignancies is traditionally performed with open approach (OA). Nevertheless, reports on the use of minimally-invasive surgical (MIS) approach to pelvic exenteration have been published with promising results in terms of peri-operative morbidity. However, oncological safety of this approach has been poorly investigated. The aim of the present study was to assess the disease-free survival (DFS) and overall survival (OS) of patients undergoing minimally-invasive pelvic exenteration.

Methods

All patients undergoing pelvic exenteration for gynaecological cancers between 2010 and 2021 were included and divided into minimally invasive and open pelvic exenterations. Only patients who underwent OA with maximum tumor diameter ≤ 50 mm were included in order to balance characteristics of the two groups. Survival analysis was performed according to Kaplan Meier methods and log-rank test; multivariate analysis was performed with Cox regression.

Results

Eighty-three patients were included: 35 (42.2%) were in the MIS and 48 (57.8%) in the OA group. 21 (60.0%) and 14 (40.0%) MIS were laparoscopic and robotic, respectively. Characteristics of the two groups are reported in Table 1. Patients undergoing OA experienced a higher rate of 30-day post-operative complications \geq grade 3 (Table 2). With a median follow up of 12 months (range, 1-97), the median DFS was 11 months (95%CI 8.8-13.2) versus 13 months (95%CI 0.3-25.6) for OA versus MIS, respectively ($p=0.757$) (Figure 1). Median OS was 23 months (95%CI 15.4-30.6) versus 22 months (95%CI 7.8-37.3) for OA versus MIS, respectively ($p=0.696$) (Figure 2). Multivariate analysis demonstrated that the presence of involved surgical margins was the only factor with significant impact on DFS, while surgical approach, grading, metastatic pelvic lymph nodes and adjuvant chemotherapy did not impact DFS.

Conclusions

MIS for pelvic exenteration showed no DFS and OS difference when compared with OA, with lower rate of major early post-operative complications.

BEST SELECTED ABSTRACTS VIDEO

ES30-0037 - Best Selected Videos

Novel technique of pelvic autonomic nerve-sparing with near-infrared fluorescence technology and indocyanine green during deep endometriosis surgery

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Background

Indocyanine green (ICG) is a fluorescent dye that allows accurate, intraoperative, real-time assessment of tissue vascularization, once excited with light of a specific wavelength in the near-infrared spectrum. Near-infrared fluorescence technology and ICG have been confirmed as feasible, safe, and useful tools to guide surgery in several settings, including colorectal and urologic surgeries. However, no reports have discussed nerve-sparing surgery using this tool in the gynaecological field. Therefore, in attempt to evaluate blood perfusion of deep endometriosis (DE) nodules to achieve better visualization of anatomical relationships to pelvic autonomic nerves, we have been injecting ICG during procedures. The objective of this video is to describe the anatomical and technical highlights of our novel nerve-sparing surgery for DE using near-infrared (NIR) fluorescence technology and ICG.

Methods

The patients were stage IV endometriosis women with parametrial involvement and complete cul-de-sac obliteration. An intravenous injection of 0.25mg/kg body weight of ICG for intraoperative NIR fluorescence imaging. Pelvic autonomic nerves were highlighted by ICG because these nerves are surrounded by many capillaries. Evaluation of blood perfusion of DE nodules and achieving better visualization of anatomical relationship to the pelvic autonomic nerves.

Results

The procedure was performed using the following 8 steps with da Vinci Xi surgical platform: Step 0, observing peritoneal endometriotic lesions; Step 1, adhesiolysis and adnexal surgery; Step 2, separation of the nerve plane; Step 3, dissection of the ureter; Step 4, reopening of the pouch of Douglas; Step 5, complete removal of DE lesions while avoiding injury to the nerve plane; Step 6, hysterectomy (if the patient desires non-fertility-sparing surgery); Step 7, checking for rectal injury using air leakage test and tissue perfusion; and Step 8, barrier agents for adhesion prevention. During surgery, the patient was administered ICG intravenously in each of Steps 0, 5, and 7. We could easily identify ischemic nodules which included DE and fibrosis under NIR fluorescence imaging, beyond the limits of macroscopic disease. Endometriosis or fibrosis was confirmed pathologically from all resected tissues, and resection margins of these tissues were negative for disease. These results suggest that this technique might be feasible for objectively identifying the border between DE lesions and healthy tissue. Furthermore, the hypogastric nerve and inferior hypogastric plexus were strongly highlighted by ICG and objectively preserved with assessment of perfusion. The patients developed no perioperative complications, including postoperative bladder or rectal dysfunction. We considered that this nerve-sparing technique is also applicable to segmental bowel resection for rectal cancer or rectal endometriosis and radical hysterectomy for cervical cancer.

Conclusions

Application of ICG with NIR fluorescence appears potentially useful, not only to remove DE, but also to improve nerve-sparing. To our knowledge, this is the first reported use of ICG during a nerve-sparing surgery for gynaecologic disease.

<https://player.vimeo.com/video/535724716?autoplay=1>

Pelvic neuroanatomy learning from fresh frozen cadaveric dissections: An overview of commonly encountered pelvic nerves in neuropelvic surgery

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Background

Neuropelvicology is new groundbreaking discipline in medicine established by Prof. Marc Possover. Neuropelvicology is concerned with the diagnosis of injuries and dysfunctions of the pelvic nerves and with the treatment of the symptoms and diseases caused by them. Sparing the pelvic nerves during surgery requires surgical expertise and an immense understanding of pelvic neuroanatomy, and fresh frozen cadaver has been used for laparoscopic training tool to improve surgical skills and anatomical knowledge. Therefore, the objective of this video is to describe commonly encountered the autonomic nerves and the somatic nerves in the pelvis, their origin, sensory and motor function using fresh frozen cadaveric dissections.

Methods

An anatomic theater for cadaveric dissections and an urban general hospital for in vivo laparoscopy. In this video, we educationally reviewed with laparoscopic view point pictures of the superior and inferior hypogastric plexus, hypogastric nerves, pelvic splanchnic nerves, sacral splanchnic nerves, femoral nerve, genitofemoral nerve, obturator nerve, lumbosacral trunk, sacral nerve roots (plexus), pudendal nerve (plexus), sciatic nerve, posterior cutaneous nerve of the thigh. Considering the anatomical relationships between these nerves and adjacent structures, we identified the external and iliac vessels, gluteal vessels, internal pudendal vessels, uterine artery, middle rectal artery, ureter, levator ani muscles, coccygeal muscle, piriform muscle, obturator internus muscle, sacrospinous ligament, sacrotuberous ligament, Alcock's canal, ischial rectal (anal) fossa, lesser sciatic foramen, greater sciatic notch, as well as other anatomical structures in the region of those mentioned.

Results

Cadaveric laparoscopic dissection provided excellent visual information on essential pelvic neural pathways. One of the advantages of cadaveric dissection was that we could see the anatomical structures beyond the limit of daily gynaecologic surgery, This information make it possible to perform precise and meticulous dissection and extensive surgery such as autonomic and somatic nerve preservation and lymph node dissection (i.e. nerve-sparing gynaecological oncologic surgery or nerve-sparing deep endometriosis surgery).

Conclusions

The fresh frozen cadaveric dissections are an essential tool for acquiring the knowledge of pelvic anatomy, especially the nerve system. The most important nerves groups are the hypogastric plexus and the sympathetic trunk for the autonomic nerve system, and the sacral and the lumbar plexuses for the somatic nerve system. Preservation of the pelvic neural pathways is necessary to deliver the best patient outcomes while minimizing unwanted surgical complications.

<https://player.vimeo.com/video/535751766?autoplay=1>

ES30-0170 - Best Selected Videos

High realistic low-cost simulator for laparoscopic and hysteroscopic training. How to build it from your hospital warehouse

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Background

The aim of this video is to demonstrate the feasibility of the construction of a low-cost simulator, with elements found at the hospital warehouse, achieving a high realistic training system, the first one published combining hysteroscopy and laparoscopy.

Methods

We present a step-by-step video of the construction of the simulator and its practical application. The design has been made based on two principles: the material used must come from the hospital warehouse and must have the flexibility to be used with different optical systems (phone, tablet, laptop or laparoscopic optic) depending on the individual media.

The approximate budget is less than 35 euros, excluding the optic elements and assuming that all the surgical consumables seen have been sterilized and reused prior to disposal.

Results

The hysteroscopy training module needs the use of the hysteroscope and the optic system. It allows the training of the vaginoscopy navigation, the modification of the cervical entrance from multiparous diameter to stenotic, the 360 degrees navigation as in real uterine cavity and the simulation of the tissue extraction with forceps or scissors.

The laparoscopic training module could be used at home with your own optic (phone / tablet / laptop) or with the laparoscopic optic system at hospital. In the first case we have designed a double view window to have direct view our ergonomic position during the training. No lights are installed inside because we use the flashlight of the phone to illuminate the laparoscopic training module. The trocars and their movement when fixed in the false skin are high realistic. It is possible to use it with the laparoscopic optical system to perform a partner training.

Conclusions

High realistic training in laparoscopy and hysteroscopy is possible through a low-cost simulator. We recommend to each trainee to adapt and design his set to his real-life trocar and surgeon position.

<https://player.vimeo.com/video/551661033?autoplay=1>

Laparoscopic management of a vesicouterine fistula after a cesarean section, in a patient with deep infiltrating endometriosis

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Background

Vesicouterine fistulas are a rare form of urogenital fistulas, representing 1-4% of all urogenital fistulas. These types of fistula are secondary to iatrogenic causes, most often cesarean sections due to accidental bladder injury (incidence of 0.1-0.3%). When unrecognized intraoperatively, these injuries may lead to fistula formation. Due to the growing number of cesarean sections worldwide, the incidence of vesicouterine fistulas is expected to rise. Patients usually present with complaints of voiding difficulties, urinary incontinence or vaginal leakage of urine. Diagnosis is based on clinical examination and imaging techniques, particularly using contrast techniques. Surgical management is usually required to correct this defect. Historically, vesicouterine fistulas were managed by laparotomy, but there is a shift toward minimally invasive techniques. We report a case of vesicouterine fistula safely managed by laparoscopic approach in a 39-year-old woman with deep infiltrating endometriosis and two previous cesarean sections. The objective of this video is to demonstrate how a vesicouterine fistula can be safely managed by laparoscopic approach.

Methods

We present a stepwise demonstration of the laparoscopic technique with narrated video footage.

Results

Interventions: Total laparoscopic approach of a vesicouterine fistula, with key steps to achieve a minimally invasive strategy: 1. Adhesiolysis of severe vesicouterine adhesions; 2. Identification of the fistulous tract after injection of blue dye through the vesical catheter; 3. Cystotomy with excision of fistulous tract and double-layer cystorrhaphy; 4. Total laparoscopic hysterectomy with bilateral salpingectomy

Conclusions

In this video, we demonstrate the surgical steps to perform an effective and safe minimally invasive laparoscopic approach to a vesicouterine fistula.

<https://player.vimeo.com/video/557335789?autoplay=1>

Nerve sparing approach of a large rectovaginal endometriotic nodule

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Background

Deep infiltrating pelvic endometriosis surgery is a challenging procedure due to the poor perception of anatomic structures, exposing the patient to further aggravation of pre-existing symptomatology. Our patient, aged 30, is suffering from dysmenorrhea, dyspareunia and dyschezia. Bimanual examination revealed an exophytic endometriotic nodule on the right lateral space of the posterior vaginal fornix. The objective was to perform a laparoscopic nerve-sparing eradicated surgery.

Methods

Clinical examination was completed by imaging. Ultrasound scan showed the presence of a rectovaginal nodule of 3,9 x 2,7 cm. MRI confirmed the diagnosis of deep infiltrating endometriosis and barium enema showed no infiltration of the rectum. We used conventional energy such as bipolar and unipolar.

The first step was adhesiolysis of the sigmoid colon and the opening of the medial division of the left pararectal space. A T-lift organ retraction device was used to suspend the right ovary. The next step was the dissection of the medial division of the right pararectal space in order to identify and isolate the right ureteral course. Separation of the endometriotic nodule from the right ureter was then possible. The lateral part and inferior part were freed from the ureter and the hypogastric nerve, the rectovaginal space was opened the anterior part of the nodule detached. A rectal probe was used to identify and mobilize the rectum and avoid any rectal injury during the resection of the nodule from the lateral serosa. A vaginal probe was placed in the posterior vaginal fornix to expose the site where the nodule infiltrated the vagina. The medial, the posterior and the infiltrated vaginal patch were removed "in block" leading to the resection of the inferior part of the nodule. Vaginal examination was performed to assess the presence of residual endometriotic tissue. Residual disease was present on the anterior side of the hypogastric nerve and by applying traction on it the dissection and resection was accomplished at a safe distance from the nerve. Finally, the vagina was closed up using a polyclonal absorbable suture.

Results

The patient was discharged 24h after surgery after an uneventful postoperative stay. At the follow-up visit a month later, the patient was completely relieved of dyschezia and dyspareunia. Her pain rating went from 7/10 to 4/10 regarding dysmenorrhea.

Conclusions

Postoperative functional complications and nerve damage were avoided, in spite of the location and the size of the endometriotic nodule. Using a step-by-step feasible systematic technique we can clearly visualise the anatomical areas most at risk and achieve the complete resection of difficult endometriotic nodules.

<https://player.vimeo.com/video/568970628?autoplay=1>

**ES30-0216 -
Best Selected Videos**

Laparoscopic sentinel lymph node dissection

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Background

Sentinel lymph node dissection is widely used in staging endometrial cancer. The present video describes laparoscopic sentinel lymph node mapping technique with indocyanine green in endometrioid G2, M2 endometrial cancer patient.

Methods

Before establishing pneumoperitoneum, a speculum is placed for cervical visualization, and 4 milliliters of Indocyanine Green (ICG) diluted to 1,25 mg/mL are injected 1 milliliter superficial (1-2 mm) and 1 milliliter deeply (1 cm) into the cervical stroma at 3 and 9 o'clock position, using a 22 G needle.

Intrauterine manipulator is placed after tracer injection, considering the possibility of re-injection.

Prior to SLN mapping, an inspection of the pelvis and a first trasperitoneal identification of channels' pelvic side wall spaces are performed.

The dissection starts with round ligament transection, identification of external and internal iliac vessels, ureter and obliterated umbilical ligament and opening the paravesical space. A successful mapping was defined as finding a channel leading from the cervix directly to one lymph node in at least one hemi-pelvis. SLN is defining as the most proximal node (closest to the uterus) regardless of location.

Image1 STM RubinaTM camera permits various modes for fluorescence identification: blue/green overlay, intensity map overlay and monochromatic.

The dissection technique should avoid disrupting lymphatic channels and isolates nodal tissue from the local anatomy.

SLNs extraction has been performed using a finger glove.

Results

Bilateral pelvic SLN detection has been reached.

8 minutes after ICG injection, a right external iliac sentinel lymph node has been detected and removed. No SLN on the left side has been identified after first ICG injection.

A second ICG injection has been performed at 9 o'clock and suddenly a left obturator lymphnode has been detected and removed.

At ultra staging no metastases has been detected in SLNs

Conclusions

Laparoscopic SLN mapping for endometrial cancer has high rate of success if performed in accordance to an agreed standard.

<https://player.vimeo.com/video/554881320?autoplay=1>

Complication of sacropexy: a clinical case report

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Background

To show one of the possible complications of sacropexy, the retroperitoneal paraprothetic abscess, and to explain how the patient was treated.

Methods

This is the case of a 57ys woman, operated of hysterোসacropexy in 2014, then reoperated several times for partial mesh resection by vaginal surgery and laparotomy, addressed to our service because of clinical degradation. An MRI showed a significant retroperitoneal periprothetic abscess, compressing the right ureter, resulting in a ureteral stenosis. An immediate surgical procedure was desirable. Video recording of the whole surgical procedure that consists of a laparoscopic complete mesh eradication, after positioning a ureteral stent.

Results

Step-by-step overview of the surgical procedure, starting from the identification of most important landmarks such as the iliac vessels, the sacral promontory and the pelvic organs, detection of the site of infection surrounding the prothesis, mesh complete resection.

Conclusions

Mesh complications should be treated immediatly and radically. An expectancy strategy may result in further aggravation of inflammation and fibrotic reaction, with possible organ injury. Polyester mesh are to be avoided because of their higher rate of complications.

<https://player.vimeo.com/video/562982761?autoplay=1>

FREE COMMUNICATIONS ORAL

ES30-0004 -
Oncology

The menace of unexpected malignancy at tissue morcellation in gynaecological laparoscopy

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Background

Even with optimal preoperative imaging, unexpected uterine sarcoma can be detected in histopathology after uterine conventional and endoscopic fibroid surgery. In case of inadvertent morcellation of an unexpected uterine sarcoma the clinical outcomes, due to the rapid intraperitoneal dissemination of malignant tissue during the procedure can be negatively influenced. The purpose of this study was to determine the prevalence of uterine sarcoma in women undergoing hysterectomy or myomectomy for benign uterine fibroids.

Methods

We performed a retrospective study over 11 years. The total number of women operated for uterine fibroids was 2297. Of this, 938 (42.5%) women had myomectomies and 1269 (57.5%) women had hysterectomies. In myomectomies the most frequently used surgical method was laparoscopic myomectomy in 591 (63%) cases, followed by hysteroscopy myomectomy in 306 (32.62%) cases, and laparotomic myomectomy only in 41 (4.37%) cases.

Results

In hysterectomies, laparoscopic approaches significantly dominated in 1163 (61.1%) cases, showing laparotomic approaches in 491 (25.82%) cases and vaginal approaches in 247 (12.99) cases. Only one patient with endometrial stromal sarcoma (ESS) was not preoperatively diagnosed and treated as symptomatic uterine fibroid; this patient underwent laparoscopic supracervical hysterectomy. In the post-operative histopathological examination ESS was detected.

Conclusions

Thus, our incidence of sarcomas among women who underwent benign uterine fibroid surgery is 1/2297 (0,043%). Laparoscopic power morcellation should be performed only in cases with no suspicion of malignancy patients, who undergo laparoscopic surgery with power morcellation should be informed about the possible risks of morcellation in cases of rare not suspected malignant disease. In bag morcellation is advised as optimal method for tissue extraction today.

Fast-track in minimally invasive gynaecology: a randomized trial comparing clinical outcomes & costs

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Background

The concept of “enhanced recovery” was developed to improve patient rehabilitation after myocardial infarction. This concept was extended to colon surgery by Kehlet et al., who developed a perioperative multimodal strategy currently known as “fast-track” (FT) surgery or “enhanced recovery after surgery” (ERAS). This concept includes the combination of minimally invasive surgery, analgesia optimization, early oral refeeding, and rapid mobilization of patients. The objective is to reduce pain and organic dysfunction induced by surgical stress. This strategy facilitates patient recovery and comfort while decreasing morbidity and hospital stay.

A review of the medical literature showed only marginal use of FT protocols in gynaecological surgery. Observational studies of women undergoing laparoscopic hysterectomy have indicated that FT protocols appear to be effective in reducing hospital stay without increasing postoperative morbidity. However, no randomized trials have been conducted to evaluate the effectiveness of an FT protocol in gynaecological laparoscopic surgery for benign indications.

The objective of this trial was to compare the effectiveness of an FT protocol in laparoscopic hysterectomy for benign indications versus usual care in terms length of stay, costs, postoperative morbidity, and patient satisfaction.

Methods

170 women undergoing total laparoscopic hysterectomy for a benign indication were randomized in an FT protocol or a usual care protocol. The FT protocol included the combination of minimally invasive surgery, analgesia optimization, early oral refeeding, and rapid mobilization of patients, and was compared to a usual care protocol. The outcomes were hospital stay, costs, postoperative morbidity, and patient satisfaction.

Results

The mean hospital stay in the FT group was 52.7 hours, and that in the usual care group was 65.8 hours ($p = 0.006$). The mean total cost in the FT group was 14,517 Swiss franc (CHF) per patient, and that in the usual care group was 3.4% higher at 15,024 CHF ($p = 0.49$). The FT group had lower inpatient surgical costs but higher total ambulatory costs during the first postoperative month. Morbidity during the first postoperative month was not significantly different between the two groups. On their day of discharge, the proportion of patients satisfied with pain management was similar in both groups (83% in FT and 78% in controls ($p=0.57$)). Satisfaction with medical follow-up one month after surgery was also similar (91% and 88% in FT group and controls respectively ($p=0.69$)).

Conclusions

The results of our randomized trial confirm that, as in colorectal surgery, the implementation of an FT protocol in laparoscopic hysterectomy for benign indications is feasible. An FT protocol significantly reduces hospital stay without increasing postoperative morbidity; however, it has a minimal effect on costs and patient satisfaction. The results of our study show that routinely implementing an FT protocol in laparoscopic hysterectomy for benign indications has several benefits with no associated risks.

Anxiety levels before and after the first outpatient evaluation for endometriosis at an academic center: results from a large cohort

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Background

Endometriosis has a major negative impact on women's psychological health, leading to increased anxiety levels. Anxiety and its implications have been investigated in patients already diagnosed with endometriosis, often as a result of chronic pain and infertility. However, little is known about women's worries before and during the diagnostic phase, despite the massive toll that these moments often take on patients. Therefore, we aimed to evaluate the impact of the first outpatient evaluation on anxiety levels in women with suspected endometriosis.

Methods

Women referred to our academic center between January 2019 and March 2020 on the suspicion of endometriosis were enrolled in this prospective, observational study. Participants answered pre-visit questionnaires such as the Generalized Anxiety Disorder-7 (GAD) and the Spielberg State-Trait Anxiety Inventory (STAI) Y6. After the visit, the STAI-Y6 was resubmitted to each woman. The change in anxiety levels before and after the first outpatient evaluation was our first outcome. Secondly, we investigated which individual characteristics exerted the greatest influence on anxiety levels.

Results

One hundred and four women were enrolled. Anxiety levels significantly decreased after the evaluation (STAI-Y6 60.0 ± 15.0 vs 40.8 ± 14.2 , $P < 0.001$). Higher reductions were noted in patients who had higher baseline anxiety levels (reg. coef. -24.3 ; 95% CI $-33.3, -15.2$; $P < .001$), had previously sought information online (reg. coef. -11.5 ; 95% CI $-21.2, -1.7$; $P .021$), and when endometriosis was not confirmed. On the contrary, being diagnosed with endometriosis (either endometriomas or deep infiltrating endometriosis) and being waitlisted for surgery were associated with a lower reduction of anxiety levels (est. change 2.2 ; 95% CI $-5.8, 10.1$; $P .587$).

Conclusions

Endometriosis is an extremely complex disease that requires a thorough evaluation, not forgetting its psychological implications. Although much has been said on the psychological implications of this disease, this is the first study that specifically focuses on anxiety in women referred to an Academic center for an outpatient evaluation due to the clinical or ultrasonographic suspicion of endometriosis. Anxiety levels are reduced after medical examination in women with higher baseline distress and who sought information only on the internet. The decrease was apparently not influenced by endometriosis site and extension. Also, anxiety was significantly reduced after the examination in most women, except for those who were scheduled for surgery. Additionally, to create a trustful relationship with women, providing them with tailored counseling, seems essential to improve their psychological wellbeing.

How the SARS-CoV-2 pandemic affected women with endometriosis: results from a prospective online survey

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Background

On March 11th, 2020, the World Health Organization announced that the viral pneumonia caused by SARS-CoV-2 could be characterized as a pandemic. Healthcare providers were forced to revise their organization to protect patients and staff from the infection, postponing or suspending non-urgent medical activities. Most of these restrictions involved outpatient activities for patients suffering from chronic illnesses, such as endometriosis. Several studies demonstrated that patients affected by endometriosis, that already experienced a severe deterioration in their quality of life due to chronic symptomatology pain-related, showed higher baseline anxiety levels compared to historical norms, making them particularly fragile in such circumstances and at risk of Post-Traumatic Stress Disorder (PTSD).

Methods

In this prospective observational study, conducted in May 2020, we considered all women aged ≥ 18 years, who had received a diagnosis of endometriosis at our Academic center. Patients were sent an anonymous questionnaire via email, containing different validated tools (EHP-5, IES-R, GAD-7) for the evaluation of endometriosis related symptoms, anxiety levels and the risk of PTSD. A multivariable linear regression was performed to assess the impact of patients' demographic and clinical characteristics on the distress caused by the SARS-COV-2 pandemic.

Results

Among the 468 women recruited, the majority were quite-to-extremely worried about not being able to access gynaecologic care during the pandemic. Older age and increased baseline levels of anxiety at GAD-7 were independently associated with a higher risk of PTSD, with up to 71.8% of patients with severe anxiety having an IES-R score suggestive for PTSD. Conversely, women who could leave home to get to work showed lower levels of PTSD. The implementation of telemedicine in the routine clinical practice was favorably viewed by 75.6% of women.

Conclusions

Women with endometriosis seemed to be particularly exposed to the risk of developing PTSD during the SARS-CoV-2 pandemic, especially if they are older or with higher baseline levels of anxiety. Gynecologists should resort to additional strategies during the present situation, and telemedicine could represent a feasible tool to help patients cope with this difficult moment.

**ES30-0013 -
Fibroids, including morcellation OR tissue extraction**

Peri-operative haemostatic techniques for complex myomectomy. Could laparoscopy be considered outdated compared to robotic surgery?

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Background

We compare the surgical outcome of laparoscopic versus robotic myomectomy in cases of complex myomectomies by focusing on various hemostatic techniques.

Methods

Review of literature.

Results

Uterine fibroids are the most common tumors of the uterus and is associated with substantial morbidity to several women. For women who wish to preserve their fertility, a myomectomy is the surgical procedure of choice, furthermore minimal invasive surgery is preferable to laparotomy. Laparoscopic myomectomy is the "gold standard" surgery in cases of uterine myomas, however robotic myomectomy was later introduced to overcome some of the difficulties associated with laparoscopic surgery. A myomectomy is a suture-intensive surgery where the properties of a surgical robot have been suggested to be of value. The haemostatic techniques adopted in complex cases apply to both surgical methods. The submyometrial injection of diluted vasopressin is effective in reducing blood loss. The efficacy of intravenous tranexamic acid in multiple myomectomies (more than 3) is yet to be proved following the latest randomized clinical trials, which, however, seem promising. The real difference between laparoscopic and robotic complex myomectomy relates to the suturing techniques. The barbed effectively reduces the time required for suturing, thereby decreasing the total operative time as well as the operative blood loss. The option of performing peripheral superficial suturing, with absorbable suture, to the areas that reveal high vascularity is a feasible and possibly cost-effective method, specifically in cases of robotic surgery. The main difference is that the multi-articulated instrumentation of a robotic system further reduces the surgical difficulty as it requires a smaller learning curve, allowing a multi-layer suturing in numerous angles and at the same time enhances the confidence of the surgeon. This triplet of benefits provided by the robotic system may differentiate the robotic from the laparoscopic approach. A quicker and more confident surgeon may not choose to convert a minimal invasive myomectomy to an open laparotomy in cases of large uteri and multiple myomas.

Conclusions

Randomized trials comparing laparoscopic to robotic myomectomy are yet to be published. Robotic myomectomy is considered with similar outcome as laparoscopic surgery and has expanded the indications of minimal invasive myomectomy to more complex cases, previously performed by laparotomy.

**ES30-0021 -
Laparoscopic surgery**

Does operative laparoscopy for abscess surgery have the benefit over open surgery regarding intra- and post- operative parameters?

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Background

Although conservative management of TOAs with antibiotics and image-guided drainage remain as the first- and second- line treatment modalities, approximately 25-30% of patients may still require major surgical treatment. In general, while laparoscopy has several advantages over open surgery, such as less invasiveness, less pain, and shorter hospital stay, few studies have investigated the advantages of laparoscopy in TOA surgery. We aimed to assess laparoscopy versus open surgery for the surgical management of TOA.

Methods

Single-center retrospective cohort study, between January 2010 and March 2020, including 48 women who underwent surgical treatment for TOA at Ankara University Hospital. The inclusion criterion was TOA diagnosis based on history, physical examination, ultrasonography images, and laboratory findings. The exclusion criteria were non-surgical treatment and the absence of full follow-up data.

All patients were hospitalized, and parenteral antibiotics were commenced on admission. They initially received an empiric antibiotic protocol, including clindamycin plus gentamicin. Patients with a history of antibiotic treatment before admission were treated by imipenem or piperacillin-tazobactam. Laparoscopic or open surgery was performed after a 48-72 hours course of intravenous antibiotherapy. The surgical interventions included a combination of abscess drainage, salpingectomy, salpingo-oophorectomy, or hysterectomy, as indicated according to surgical exploration findings.

Results

Of 48 patients with TOA, 18 (37.5%) underwent laparoscopic and 30 (62.5%) underwent open intervention. The surgical approach had no impact on the duration of operation (95 min. for laparoscopy vs. 90 min. for open surgery; $P=0.341$) and blood products transfusion (27.8% vs. 20.0%, respectively; $P=0.535$). However, the median postoperative hospital stay was significantly shorter in patients who underwent laparoscopy compared to patients managed with open surgery (4.5 days vs. 7 days, respectively; $P=0.035$). Although not statistically significant, there were three intraoperative bowel injuries (10%) in the open surgery group and none in the laparoscopy group. One patient in the laparoscopy group experienced a pulmonary embolism. There were no secondary surgeries, perioperative deaths, bacteremia, ileus, bladder/ureteric injury, and vascular injury in both groups.

Conclusions

Laparoscopic surgery has clinical advantages over open surgery in patients with TOA, particularly shorter postoperative hospital stay. Minimal invasive surgery should be preferred even in severely adhesive and inflammatory TOA patients in order to improve postoperative outcomes.

Prospective evaluation of the connected biofeedback EMY Kegel trainer in the management of stress urinary incontinence

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Background

The aim of this study was to evaluate changes in the quality of life with the connected biofeedback EMY Kegel trainer in patients suffering from stress urinary incontinence.

Methods

This was a prospective, single-center, non-comparative study, which took place between September 2019 and October 2020, in the University Hospitals of Strasbourg. In order to be eligible for the study, patients had to report at least one episode of urine leakage per week in the last 3 months, have given birth at least 6 months beforehand, be able to perform an effective voluntary contraction, and have responded favorably to perineal rehabilitation for stress urinary incontinence or mixed stress incontinence in at least two sessions. Eligible patients were instructed to use the EMY probe for a minimum of 10 minutes per day for five days per week. To assess quality of life and urinary symptoms, the Contilife and ICIQ-SF scores were completed at the inclusion visit (M0) and each month until the final visit (M3). The PGI-I and EMY utility questionnaires were also completed at 3 months to assess the benefit of the EMY Kegel Trainer.

Results

A total of 55 patients were included. At the inclusion visit (M0), the mean Contilife and ICIQ-SF scores were respectively at 6.6 ± 1.5 and 10.5 ± 3.0 points (mean \pm SD). At the final visit (M3), the mean Contilife score increased to 9.2 ± 1.0 , indicating an improvement in quality of life. The mean ICIQ-SF score decreased to 4.2 ± 4.0 , indicating an improvement in urinary symptoms. The PGI-I and EMY utility questionnaires identified a positive assessment of the playfulness, ease of use, and efficiency of the EMY Kegel trainer. On the 55 patients included, 35 (64%) reported completing at least 36 sessions during the study, i.e. an average of 3 sessions per week.

Conclusions

This study suggests that perineal rehabilitation by biofeedback using the EMY Kegel trainer is beneficial. A comparative study with pelvic floor muscle training will be conducted in the future.

**ES30-0029 -
Technical innovation in minimal invasive surgery**

Transcervical fibroid ablation with the Sonata® System in an ambulatory setting with local anesthetic is highly tolerable

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Background

This is a prospective study to assess the adequacy of pain control in women symptomatic uterine fibroids undergoing transcervical fibroid ablation (TFA) under multimodal local anesthesia in an ambulatory care setting.

Methods

Patients are women with symptomatic fibroids undergoing elective TFA with the Sonata System. After oral premedication (generally diclofenac or other NSAID, paracetamol and ondansetron), cervical block and intramyometrial local anesthesia, TFA was used to ablate fibroids under integrated real-time intrauterine sonography. Patients were eligible for discharge 20-30 minutes post-procedure.

Results

Thirteen women, five (38%) of whom desired fertility, have been treated to date. Up to 4 fibroids 2.6 cm-7.7 cm in maximum diameter were ablated in a single treatment session. The duration in the treatment room were all <50 minutes. The mean pain score (0-10 range) was 0.5. Nine women had pain scores of 0, two had scores of 1 and the remaining two patients reported scores of 2. No procedure was terminated early due to pain, and no patient had a recovery room length of stay >60 minutes. There were no patients admitted or readmitted for any reason, and 100% of patients would recommend the procedure to others.

Conclusions

Transcervical fibroid ablation with the Sonata System may be performed under multimodal local anesthesia with a high degree of tolerability and low pain scores.

**ES30-0030 -
Technical innovation in minimal invasive surgery**

Pregnancy outcomes after transcervical radiofrequency ablation of uterine fibroids with the Sonata® System

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Background

This is a retrospective case series to describe pregnancy outcomes in women who conceived after undergoing transcervical fibroid ablation (TFA) as treatment for symptomatic uterine fibroids.

Methods

Transcervical fibroid ablation was used to treat symptomatic uterine fibroids, both under clinical trial protocol and commercial usage.

Results

To date, there have been 32 pregnancies representing 18 deliveries among 25 women who were treated with TFA. Four women conceived more than once post-ablation, and four conceived as a result of assisted reproductive technology (ART). Outcomes include 8 vaginal deliveries, 10 Cesarean sections, 3 therapeutic abortions, and 8 miscarriages (four occurring in a patient with a history of recurrent abortion and an immunologic disorder). Three women are either currently pregnant or have outcomes pending. There were no 5-minute Apgar scores <7, and all neonates weighed >2500 gms. All deliveries occurred at ≥37 weeks, except for one delivery at 35 6/7 weeks. There were no uterine ruptures or abnormal placentation and no reports of postpartum hemorrhage. One patient developed HELLP syndrome and had an emergent C/S after a trial of labor at term, while another underwent C/S for fetal macrosomia. Ablated fibroids included transmural, submucous and intramural myomata up to 6.6 cm in diameter.

Conclusions

Normal pregnancy outcomes at term have occurred after TFA with the Sonata System, including in women with recurrent abortion and in those undergoing ART.

**ES30-0031 -
Technical innovation in minimal invasive surgery**

Durable improvement in generic and fibroid-specific quality of life in women treated with the Sonata® System after three years

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Background

This is a prospective, controlled, multicenter interventional trial at 22 Hospitals in the US (21) and Mexico (1) to determine the longitudinal health outcomes of transcervical fibroid ablation (TFA) with the Sonata System on quality of life (QOL) as determined by quality-adjusted life years (QALYs) over 3 years.

Methods

TFA was used to ablate fibroids under clinical trial protocol. Change in generic health status was assessed with the EQ-5D questionnaire (0 to 1 scale). Fibroid-specific QOL was measured on a 0 to 100 scale using the health-related quality of life (HRQL) subscale of the Uterine Fibroid Symptom and Quality-of-Life (UFS-QOL). We determined the number of QALYs gained relative to baseline by calculating the area under the curve at each follow-up visit over 3 years. We additionally determined cumulative QALYs experienced at each interval during follow-up.

Results

The SONATA trial enrolled 147 women at 22 centers who received TFA for symptomatic uterine fibroids. Fibroid-specific QOL increased from 40±21 at baseline to 83±23 at 3 years ($p<0.001$). Generic QOL increased from 0.72±0.21 at baseline to 0.88±0.16 at 3 years ($p<0.001$). Comparing outcomes at 3 years relative to baseline, TFA resulted in 1.24±0.64 QALYs gained when calculated using fibroid-specific health utility scores and 0.49±0.61 QALYs gained when calculated using generic health utility scores. Cumulative QALYs experienced at 3 years as a percentage of perfect health were 82% when using fibroid-specific scores and 88% when using generic health scores.

Conclusions

Women treated by TFA with the Sonata System for symptomatic uterine fibroids reported durable improvements in generic and fibroid-specific QOL.

Laparoscopic hysterectomy trends over 13 years in a tertiary setting

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Background

The progression from laparotomies to laparoscopic techniques is well documented within surgery in general, and the same is true for gynaecology. This comes with many benefits including shorter hospital stays, reduced complication rates and lower overall cost.

This study aims to highlight how hysterectomies have followed this pattern at Royal Derby Hospital (RDH) and how operation times and conversion rates have changed. It will also aim to assess if there is a direct correlation between surgeon experience and operation duration and conversion rates.

Methods

Data was collected from 10 surgeons over a 13-year period (54,052 operations found) and divided into their intended procedure - either total laparoscopic (TLH) and abdominal hysterectomies (TAH) leaving 3,390 operations to be analysed. TLHs were reviewed and coded as 'converted' if the laparoscopy was abandoned for an abdominal approach. Conversion rates and operation times were calculated using data from theatre records.

Results

Results confirmed that there has been a significant decline in the frequency of TAHs (-35.5%, $p < 0.05$) and significant increase in TLHs (+50.4% $p < 0.05$) throughout the department. RDH had similar TLH rates and lower TAH than the national average in 2017 (TLH: 39.3% vs 47.2%, TAH: 22.3% vs 46.2%). Operation times have trended downwards across the department with significant decline in operation time in the final 3 years of the study period (-22 mins over 11 yrs, $p < 0.05$). Conversion rates followed a similar pattern and trended downwards with a significant decrease in recent years ($p < 0.05$). Operation times and conversion rates were significantly lower for the most experienced TLH surgeon in the department, who also had the shortest operation time of TLHs (-13 mins avg) and lowest conversion rate. This surgeon had consistently low conversion rates (<2.0%) and operation times (<90 mins) after performing 151 TLHs over 5 years.

Conclusions

Both operation times and conversion rates of TLHs have decreased significantly over time, with the shortest operation time and lowest conversion rates associated with the most experienced surgeons. Further investigation is needed to assess if these findings have any significant direct effect on patient outcomes.

The comparison of vaginal and laparoscopic transabdominal cerclage for mid-trimester pregnancy loss due to cervical insufficiency

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Background

Cervical insufficiency is the primary cause of mid-trimester pregnancy loss. Surgical interventions for cervical insufficiency mostly include cerclage techniques with a vaginal approach and transabdominal intervention either with laparotomy or laparoscopy. The aim of this study was to compare the vaginal cerclage (VC) and laparoscopic transabdominal cerclage (LAC) for cervical insufficiency leading to mid-trimester pregnancy loss.

Methods

Vaginal or laparoscopic abdominal cerclage was performed in patients with cervical insufficiency who had their earliest pregnancy loss in the mid-trimester, in a tertiary university hospital. It is a retrospective, cross-sectional, trimester-matching study. Demographic data and obstetric history of the patients, birth week, and live birth after cerclage, and birth weight of the newborn were recorded.

Results

There were 27 and 19 patients in VC and LAC groups, respectively. The demographic data and obstetric history of the patients were statistically similar in both groups ($p > 0.05$) except parity ($p = 0.015$), the number of previous vaginal cerclages ($p < 0.001$), and the number of failed vaginal cerclage ($p < 0.001$) which were higher in LAC group. The birth week after cerclage was 30.6 ± 9.2 (14-40) vs 36.3 ± 2.0 (21-39) weeks ($p = .039$), live birth after cerclage was 19 (70.4%) vs 18 (94.7%) ($p = .040$) and birth weight of the newborn was 2266.7 ± 1310.0 g vs 2989.5 ± 873.1 g ($p = .042$) respectively in VC and LAC groups and they were statistically higher in LAC group compared to VC group.

Conclusions

We suggest that laparoscopic abdominal cerclage provides a longer birth week, better live birth rate, and higher birth weight. It may be chosen with priority over VC in patients who have a history of repeated mid-trimester pregnancy loss and failed vaginal cerclage.

Vaginal 3D ultrasound improves the detection rate of uterine pathology among women referred for infertility. A retrospective observational study in a university hospital

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Background

The incidence of uterine pathology is higher among women referred for assessment of infertility or recurrent miscarriage, compared to women in the general population. Vaginal 3D ultrasound (US) is a low-cost and non-invasive method shown to have high accuracy in diagnosing uterine malformations, e.g. intrauterine septum, and intrauterine pathology such as polyps, adhesions, myomas and adenomyosis. The diagnostic precision of 3D US is found to be superior to 2D US alone, and 3D US is the only way to see the uterus in the frontal plan. The technique could therefore be used to confirm a normal uterus and to identify pathology. 3D is also used for mapping the uterine cavity prior to hysteroscopic procedures, often combined with intrauterine saline infusion.

Methods

This is a retrospective observational study, which took part at the Department of Fertility at St.Olavs hospital, Trondheim, Norway. The first 101 women referred for infertility investigations in 2019 were included and compared to the first 98 women investigated in 2017, a total of 199 women. 3D US as a routine for all assessed patients was implemented during the first quarter of 2018 and performed by trained doctors at the initial assessment for infertility. The study compares the incidence of ultrasound diagnosed uterine pathology (myomas, anomalies, polyps, intrauterine adhesions and adenomyosis) before and after adding a 3D US to the conventional examination with 2D US.

Results

The included patients from 2017 and 2019 had the same baseline characteristics. In total, the incidence of uterine pathology were 9,2% in 2017 and 12,8% in 2019, which is not a significant difference (Chi-Square, Fisher's exact test, p 0,5). We found that adding 3D US to the 2D US with regards to find myomas did not increase the detection rate (incidence 2,0% and 6,1%, p 0,17), When excluding myomas, we found an incidence of 2,0% for patients assessed in 2017 and 9,9% in 2019 for the remaining uterine pathology (polyps, adenomyosis, intrauterine adhesions and uterine anomalies). This is a significantly higher incidence in the population examined by 3D US compared to the 2D US alone (Chi-Square, Fisher's exact test, p 0,033).

Conclusions

Routine 3D US leads to a significantly higher detection rate of uterine pathology (anomalies, polyps, intrauterine adhesions and adenomyosis) compared to 2D US alone.

**ES30-0043 -
Laparoscopic surgery**

Oophoropexy for prevention of recurrent torsion of normal adnexa

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Background

Background: The conservative management of otherwise normal adnexal torsion by de-torsion may lead to recurrent torsion events. With the aim of reducing recurrent torsion events, various oophoropexy techniques have been suggested. We aimed to investigate the efficacy of oophoropexy in preventing recurrent torsion.

Methods

Retrospective study reviewing cases of oophoropexy operated between January 2010 and March 2021. The oophoropexy techniques included laparoscopic plication of the ipsilateral utero-ovarian ligament and/or fixation to the ipsilateral round ligament using non-absorbable sutures.

Results

15 patients with recurrent torsion of otherwise normal adnexa who underwent oophoropexy were identified. Their mean age at time of the first torsion event was 18.3 ± 7.4 , and 4 (26.7%) were pre-menarchal at that time. The recurrent torsion involved the right adnexa in 9 (60.0%) cases, the left adnexa in 4 (26.7%) cases, and both adnexa in 2 (13.3%) cases. The mean interval between the first and second torsion event was 17.8 ± 20.2 months. In 3 (20.0%) cases, no recurrence occurred following oophoropexy, while in the remaining 12 (80.0%) cases up to 4 recurrences were diagnosed.

Conclusions

Laparoscopic oophoropexy procedures, although feasible and safe, may not prevent recurrent torsion of otherwise normal adnexa.

**ES30-0044 -
Hysteroscopic Surgery**

Beta-human-chorionic-gonadotropin levels in women diagnosed with retained products of conception: A prospective cohort study

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Background

Retained products of conception (RPOC) may occur following delivery or abortion, often necessitating operative hysteroscopy for removal. Preoperative diagnosis of RPOC by ultrasound is not always accurate, possibly leading to unnecessary surgical procedures. We sought to evaluate whether serum levels of Beta-human-chorionic-gonadotropin (BHCG) may aid in the preoperative diagnosis of RPOC.

Methods

Prospective cohort study including all women undergoing operative hysteroscopy for removal of RPOC between 12/2019 and 1/2021. Serum BHCG levels were obtained on the day of surgery. Levels ≥ 5.0 mIU/ml were considered positive. All specimens were evaluated by pathology for presence of trophoblastic tissue.

Results

105 women were recruited to the study. Of those, the operative pathology showed trophoblastic tissue in 81 (77.1%) cases, which were included in the data analysis. Of the 81 cases with pathology proven RPOC, levels of BHCG were positive in 16 (19.8%) cases. Positive BHCG levels were significantly associated with RPOC following abortion as opposed to delivery. In addition, the mean RPOC mass was larger in the BHCG positive group compared with the BHCG negative group (29.1 ± 9.5 mm versus 23.8 ± 8.9 mm, respectively, $p=0.004$), and the time interval from termination of pregnancy to surgery was shorter (4.8 ± 1.7 weeks versus 7.5 ± 2.1 weeks, respectively, $p<0.001$). Relatively high BHCG levels of 352 mIU/mL and 3561 mIU/mL were found in 2 cases in which the RPOC mass was implanted on the previous cesarean section scar.

Conclusions

Levels of BHCG are not helpful for the preoperative diagnosis of RPOC. Nevertheless, in rare cases with relatively high BHCG levels, RPOC located on the previous cesarean section scar should be suspected.

Volume and MIS procedures: how to deal with the pitfalls after implementation

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Background

The implementation of advanced minimally invasive surgical (MIS) techniques has broadened over the last years. High hospital and surgeon volumes lead to better patient outcomes. However, no information is available regarding the impact and trends in volume in the post-implementation phase of MIS. The objective of this study was to investigate these trends and poses suggestions to adjust these developments. This knowledge can provide guidance to optimize implementation and patient safe performance of new surgical techniques.

Methods

An observational multicenter study in all hospitals in the Netherlands. The number of advanced laparoscopic (level 3 and 4) and robotic procedures and number of performing gynaecologists was collected through a web-based questionnaire to determine hospital and gynaecological surgeon volume. Hospitals extracted their procedure numbers from the local electronic database, annual reports or theatre lists. Both volumes were compared with previously collected data.

Results

The response rate was 85%. Hospitals produced larger volumes for advanced laparoscopic and robotic procedures compared to 2012, as the share of high volume hospitals increased from 46% to 61% for level 3 procedures. However, still 63% of the hospitals perform low volume level 4 laparoscopic procedures. Additionally, gynaecological surgeon volumes appeared to decrease for level 3 procedures, as the group of gynaecologists performing less than 20 procedures expanded (64% vs. 44% in 2012), with 15% of the gynaecologists performing less than ten procedures. Despite an increase in surgeon volumes for level 4 laparoscopy and robotic surgery, volumes continued to be low, as still 49% of gynaecologists performed less than 10 level 4 procedures per year and 41% less than 20 robotic procedures per year.

Conclusions

The broad implementation of advanced MIS procedures resulted in an increasing number of these procedures with increasing hospital volumes. However, as a side effect a disproportionate rise in number of gynaecologists performing these procedures was observed. Therefore, surgeon volumes remain low, with 49% performing less than 10 level 4 procedures, and even decreased for some procedures. This study showed the consequences of implementing a new technique. The observed trends of the post-implementation phase are relevant to many newly implemented techniques. Guidance might be necessary in this phase to optimize volumes. Several measurements, such as centralization of complex procedures and training of specialized MIS gynaecologists, and its side-effects will be discussed to optimize patient safe implementation of MIS.

Asherman syndrome (AS) after long term use of a levonorgestrel containing IUD, cause or coincidence?

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Background

Asherman Syndrome (AS) is a condition characterized by the presence of hysteroscopically confirmed intrauterine adhesions (IUA) and two clinical entities. First, the IUA are caused by non-intended trauma, severe infection or hypoxia of the endometrium in a gravid uterus. Second, the IUA cause clinical symptoms like hypomenorrhea, amenorrhea, subfertility or cyclic lower abdominal pain or recurrent pregnancy loss.

The exact predisposing factors for women to develop AS are unknown. One of the reasons might be a vulnerable endometrium due to a hypo estrogenic uterine environment.

The effect of levonorgestrel (LNG) in a LNG-IUD is stromal decidualisation and glandular atrophy which results in a thin endometrium. The purpose of the study was to investigate if women who get pregnant quickly after removal of the LNG-IUD and undergo a surgical procedure for a miscarriage are at greater risk to develop AS.

Methods

We performed an observational cohort study in a university affiliated teaching hospital and referral center for AS in The Netherlands from 2017 to 2020.

We included 364 cases of women with AS who underwent hysteroscopic adhesiolysis.

Adhesiolysis was performed with an Olympus 5.5 mm rigid hysteroscope with conventional instruments using fluoroscopy as a guidance method. After successful adhesiolysis an IUD without Cu or hormones was placed inside the uterine cavity to prevent recurrence of adhesions. Women were treated with two consecutive cycles of hormones (estrogen and progesterone). A second look hysteroscopy was performed 8-10 weeks post-surgery.

Results

We identified 55 women with a first trimester procedure preceding AS who used a LNG-IUD for a longer period of time (more than 3 years). All of them had hypomenorrhoe or had amenorrhea during the LNG-IUD use. They almost all conceived within 3 months after removal of the IUD. The grade of intrauterine adhesions varied from grade 2-4 ESGE classification. Adhesiolysis was performed and the uterine cavity was restored in all cases.

Conclusions

The exact predisposing factors for women to develop AS are unknown. One of the reasons might be a vulnerable endometrium due to a hypo estrogenic uterine environment which might women more prone to developing AS. If so, long term use of a LNG-IUD could be an independent factor for the commencement of AS.

Asherman care in a pandemic

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Background

COVID-19 was declared a pandemic by the World Health Organization (WHO) during its 51st situation report on March 11, 2020. The COVID-19 pandemic is causing harmful consequences not only to those who are infected with the virus. Joint society statement on elective surgery stated that hysteroscopic procedures should be limited to those patients in whom delaying the procedure could result in adverse clinical outcomes. With the growing knowledge about long-term consequences of intra uterine adhesions and the traumatic impact for women suffering from subfertility our center continued Asherman care with an adjusted protocol. In this study we observed the patient's satisfaction regarding the adjusted protocol and care provided to women who were referred to our centre for the treatment of Asherman Syndrome (AS) in the Covid-19 pandemic.

Methods

We performed an observational cohort study in a university affiliated teaching hospital and referral center for AS in The Netherlands from March 2020 to March 2021. Women with AS needing surgery because of severe clinical symptoms, could be included if they had an adequate screening for potential COVID-19 infection. Instead of a face to face first appointment, the included women were now interviewed by phone. The diagnosis, treatment and follow up protocol were explained. The pre-operative screening also took place with a phone interview to triage patients on the basis of their symptoms and infection exposure status and who did not require face-to-face consults by the anesthesiologist. If eligible for treatment, they were given the opportunity to schedule a see and treat procedure with propofol sedation. All women who decided to proceed with surgery were treated with the standard AS protocol as follows. Adhesiolysis was performed with an Olympus 5.5 mm rigid hysteroscope with conventional instruments using fluoroscopy as a guidance method. After successful adhesiolysis an IUD without Cu or hormones was placed inside the uterine cavity to prevent recurrence of adhesions. At the recovery unit, women were asked to fill in the patient satisfaction questions.

Results

137 women were operated between March 2020 and March 2021. Patients were matched with a cohort prior to the Covid-19 pandemic. Baseline characteristics did not significantly differ between the cohorts. Women with AS who were treated in our centre during the Covid-pandemic were equally satisfied with the information at first appointment, explanation, treatment and follow-up as women in their matched cohort prior to the pandemic.

Conclusions

Patients with AS who were referred to our centre, were offered COVID-19 adjusted protocol to inform, diagnose, treat and follow-up on their condition. Women experienced no negative impression of this impact on their care.

**ES30-0052 -
Technical innovation in minimal invasive surgery**

Follow-up of a prospective, randomized, controlled clinical study on adhesion prevention with 4DryField® PH after endometriosis resection

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Background

Adhesion formation after endometriosis surgery is a severe problem affecting up to 90% of patients. As adhesions are the most common causes of chronic pain and secondary female infertility, effective adhesion prevention is essential after gynaecological surgery. In our randomized controlled trial (RCT) on the starch-based barrier gel 4DryField® PH, primary endpoint data showed significant reduction of adhesion scores by 85%. Now we present secondary endpoint data, collected during 1-year follow-up.

Methods

Fifty patients with a two-staged second-look approach for deep infiltrating endometriosis (DIE) were included. In both surgeries, the intervention group was treated with 4DryField® PH gel, the control group received irrigation with saline solution only. Pain scores were recorded pre- and 1, 6, and 12 months post-operatively using a numerical rating scale (NRS), evaluating cycle-independent pelvic pain, dysmenorrhea, dyspareunia, dyschezia, and dysuria. The recommendation for adhesiolysis, the wish to conceive and pregnancies were also recorded. In both groups, 92% of patients completed follow-up.

Results

No complications occurred in both groups. All pain scores (relative and absolute values) and the patient rate with a recommendation for re-adhesiolysis were lower in the intervention group after 12 months, while the pregnancy rate was higher. This represents a distinct trend. As these endpoints do not only rely on adhesion formation but also on other factors such as the recurrence of endometriosis, variance is high and statistical significance is difficult to achieve with a sample size that was primarily based on adhesion formation as endpoint. Nevertheless, significant improvement of fertility could be demonstrated: 7 of 11 patients who wanted to conceive (64%) became pregnant in the 4DryField group, compared to only 3 of 14 (21%) in the control group. Additionally, pain scores significantly improved for cycle-independent pelvic pain, dysmenorrhea, and dyspareunia in the intervention group. In contrast, only dysmenorrhea improved significantly within the control group.

Conclusions

Secondary endpoint results emphasize the high efficacy of the primary endpoint outcome with 4DryField® PH, i.e. 85% adhesion reduction. The significant increase in pregnancies is remarkable.

Three-Dimensional ultrasound evaluation of pelvic floor muscle contraction in women affected by deep infiltrating endometriosis: application of a quick contraction scale

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Background

This study aims to apply a 4-points contraction scale to evaluate pelvic floor muscle (PFM) in endometriotic patients. Using transperineal 3D/4D ultrasound, we compared the differences in terms of antero-posterior (AP) diameter reduction among women affected by ovarian and deep infiltrating endometriosis (DIE) and healthy controls applying the 4-points contraction scale. Moreover, we aimed to establish if this scale correlates with the severity of endometriosis pain symptoms.

Methods

In this prospective study we enrolled 82 consecutive nulliparous women scheduled for surgical excision of DIE and 82 scheduled for surgical excision of ovarian endometriosis. We also enrolled 82 nulliparous healthy volunteers who did not show any clinical or sonographic signs of endometriosis as controls. Patients affected by endometriosis were asked to rank endometriosis-related symptoms while all patients were subjected to transperineal ultrasound obtaining measurements of the AP diameter, both at rest and during maximal pelvic floor contraction. According to the results of reduction of AP diameter, women were categorized into the 4-points contraction scale: absent (<7%), weak (7-17.9%), normal (18-34.9%), strong ($\geq 35\%$).

Results

Mean difference in AP diameter between relaxed state and maximal PFM contraction was $23.3 \pm 7.9\%$ (range 2.4-40.0) in controls, $20.5 \pm 9.0\%$ (range 0.0-37.3) in patients with ovarian endometriosis, and $14.6 \pm 10.4\%$ (range 0.0-37.1) in patients with DIE (F-test = 19.5, p-value < 0.001). A significant negative correlation was found between the contraction scale and dyspareunia ($r_s = -0.17$, p-value = 0.032), and it appeared to be stronger among patients with DIE ($r_s = -0.20$, p-value = 0.076). According to the four-points contraction scale, 15% of the healthy patients were categorized as absent or weak contraction, as opposed to 37% of the patients with ovarian endometriosis and 62% of the patients with DIE (chi-squared test = 49.6, p-value < 0.001).

Conclusions

PFM function in endometriotic patients could be assessed reliably through the 4-points scale of AP diameters. In particular, patients affected by DIE usually present absent or weak muscle contractility, which, in our findings, is associated with worse symptoms, especially dyspareunia. The rapid identification of women suffering from PFM dysfunction, along with deep dyspareunia, could enable gynecologists to offer them additional therapies, such as PFM rehabilitation.

Impact of COVID-19 pandemic period on management and outcome of adnexal torsion

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Background

We aimed to study the collateral effect of the actions taken to limit the spread of the COVID-19 pandemic by comparing the characteristics and outcomes women who underwent laparoscopy for suspected adnexal torsion (AT) during the pandemic to prepandemic periods.

Methods

A retrospective cohort study from a tertiary, university affiliated medical center. We included all women who underwent laparoscopy for suspected AT between March 2011 and February 2021. We compared the COVID-19 pandemic period, beginning at the first lockdown in Israel (March 15 2020 to February 8 2021, group A) to a parallel period in 2019-2020 (group B) and to a nine years period preceding the pandemic, between 3/2011-2/2020 (group C).

Results

Ninety-seven laparoscopies were performed in group 1, 82 in group 2, and 635 in group 3.

Groups A and B were comparable in age, obstetrical history, sonographic characteristics of adnexa and clinical presentation. The rate of women presenting following IVF treatment was lower in group A [OR 95% CI 0.22 (0.06-0.86), $p < 0.023$]. Time from admission to decision to operate was shorter in group A (162 vs. 232 minutes, $p = 0.028$).

In the comparison between groups A and C, baseline characteristics were comparable. The rate of women presenting following IVF treatments was lower [OR 95% CI 0.15 (0.04-0.49), $p < 0.001$], the time from admission to surgery was shorter (544 vs. 748 minutes, $p = 0.005$), and the rate of surgically confirmed AT was lower [59 (60.8%) vs. 455 (71.7%), $p = 0.030$, OR (95% CI) 0.61 (0.39-0.95)] in group A.

Upon examination of surgically confirmed ATs only, time from onset of symptoms until arrival was comparable between periods. Mean time from admission until surgery was 506 minutes in group A vs. 623 minutes in group B ($p = 0.397$), and vs. 647 in group C ($p = 0.090$). Mean time from admission to decision was shorter in the COVID-19 period (153 minutes in group A vs. 276 in group B, $p = 0.014$).

Conclusions

Our data underline differences in the time from admission to surgery during the COVID-19 pandemic, and in the rate of women presenting with suspected AT following IVF treatments. These findings may reflect a change in medical resources during the pandemic.

Preoperative clinical features of isolated fallopian tube torsion: Evidence from a large series

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Background

We aimed to study isolated fallopian torsion (IFTT) in a large cohort of women and to evaluate different features of IFTT in comparison to a large cohort of women with non-IFTT adnexal torsion (NIAT).

Methods

A retrospective cohort study from a tertiary, university affiliated medical center. We included women with surgically confirmed ovarian and/or fallopian tube torsion between March 2011 and June 2020. We compared women with IFTT to those with NIAT during the same period.

Results

Fifty-four cases of IFTT were surgically confirmed during the study period and were compared to 422 surgically confirmed NIAT. The rate of controlled ovarian hyperstimulation treatments, current pregnancy, and vomiting was lower in the IFTT group compared with the NIAT group. Cervical tenderness and vaginal discharge were more common in the IFTT group. Edematous and enlarged ovaries were less common in the IFTT group.

In a multivariate regression analysis, the following factors were independently positively associated with IFTT; vaginal discharge [adjusted Odds Ratio (aOR) 95% CI 8.16, 1.98-33.55], and cervical motion tenderness (aOR 95% CI 2.71, 1.01-7.29). The following factors were independently negatively associated with IFTT; fertility treatments (aOR 95% CI 0.26, 0.70-0.77), previous abdominal surgery (aOR 95% CI 0.46, 0.22-0.96), vomiting (aOR 95% CI 0.38, 0.19-0.76) and enlarged ovary (aOR 95% CI 0.34, 0.18-0.65).

Conclusions

We have identified preoperative factors positively and negatively associated with IFTT in a large cohort of women with adnexal torsion.

The use of an intrauterine balloon in preventing adhesion recurrence after hysteroscopic adhesiolysis: a feasibility study

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Background

To evaluate the feasibility of a heart shaped intrauterine balloon as antiadhesion method subsequent to a hysteroscopic adhesiolysis in terms of surgeon and patient experience

Methods

This pilot study was performed in a cohort treated for IUAs at the Ghent University Hospital (Belgium) from February 2018 to November 2020. Ten patients scheduled for hysteroscopic adhesiolysis were included. A heart shaped intrauterine balloon was inserted immediately after hysteroscopic adhesiolysis and left in place for 7 days under antibiotic prophylaxis.

Results

Insertion and removal of the balloon was easy to very easy in seven women out of ten, and successful in all cases. The reported pain score (visual analogue scale (VAS)) was the highest on the day of the surgery (median 5.9 (interquartile range (IQR) 1.0 – 7.0)). The median mean pain score during balloon wearing was 2 (1 – 4). Two out of ten women reported remarkably higher pain scores (6.6 and 7.0). The median pain score during balloon removal was 1.3 (0.9 - 4.6). The adverse event rate in our study was relatively high (3/10) nausea and pain (n=1), urinary retention (n=1), vaginal candida infection (n=1)). Seven out of ten women were satisfied to very satisfied. Eight out of ten women would probably or certainly recommend the procedure to a friend and would use the balloon again. Eight out of ten women were employed, but only three patients did go to their work with the balloon in place. The median reported impairment of daily activities was 3.0 (IQR 1 – 5). Second-look hysteroscopy showed an improvement or disappearance of the intrauterine adhesion score in all cases.

Conclusions

The heart shaped intrauterine balloon as antiadhesion method is feasible in terms of surgeon and patient experience. The balloon is easy to place and to remove. Although reported daily pain scores were low, most patients experienced some discomfort with the balloon in place and adverse events did occur. Still, most patients were satisfied, would recommend the antiadhesion method to a friend, and would use it again. The use of the heart shaped intrauterine balloon as antiadhesion method needs further evaluation in comparison to other antiadhesion methods.

The Intrauterine Bigatti Shaver (IBS®) for endometrial polyps treatment: A 1050 patients retrospective analysis

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Background

Study Objective: to describe the Intrauterine Bigatti Shaver (IBS®) efficacy, safety and recurrence rate for the treatment of endometrial polyps.

Methods

Design: Retrospective cohort chart review of 1150 patients with endometrial polyps treated with the Intrauterine Bigatti Shaver (IBS®)

Setting: Renji Hospital (University tertiary-care hospital), School of Medicine, Shanghai Jiao Tong University, Shanghai.

Patients: 1150 patients from July 1st 2019 until March 30th 2021 with a diagnostic hysteroscopy diagnosis of Polyp were included in the study.

Intervention: Intrauterine Bigatti shaver (IBS®) treatment. Rotation speed of the blade 2100 rpm (Rotation per minute) - Aspiration 250 ml/min. All patients underwent a transvaginal ultrasound followed by diagnostic hysteroscopy with 2.9mm Campo Trophscope before the Shaver treatment.

Results

All Patients were successfully treated with the IBS. The treatment was not limited to the polyp insertion area but we additionally removed most of the endometrium by shaving all the intrauterine walls. The population general features were as follows: patient's mean age 47.6 (range 22-76 years old), mean childbirth was 1.7 (range 0-4), n.343 patients (32.7%) were in postmenopausal state, n.479 patients (45.6%) were symptomatic with abnormal uterine bleeding. The mean total operation time was 10.6mins (range 8-50mins), the fluid deficit was 30ml (range 0-1000 ml). Recurrence rate was evaluated after 6 months from the first operation. No complications such as perforation, heavy bleeding or cervical injury were reported.

Conclusions

The Intrauterine Bigatti Shaver (IBS®) is a very safe and effective treatment for endometrial polyps. The additional endometrium removal has proven to achieve low recurrence rate with a very fast symptoms improvement such as immediate resolution of heavy menstrual bleeding. No case of amenorrhea or post-surgical adhesions have been reported. The Shaver treatment does not involve the basal layer of the endometrium allowing a functional healing of the mucosa layer. The Intrauterine Bigatti Shaver treatment should be the first choice procedure in case of endometrial polyp's treatment.

The effect of radical excision of rectal endometriosis on rectal function

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Background

Women who undergo radical surgery for rectal endometriosis are at risk of developing lower anterior resection syndrome typically if the resection is within 10 cm of the ano-rectal junction. The mechanism is still poorly understood but is likely related to damage to the rectal autonomic supply and to mechanical changes brought about by removal of the rectal ampulla. There is minimal information in the literature relating to the effect of severe endometriosis on preoperative rectal function.

In this study we assess rectal function preoperatively and at 3 and 6 months postoperatively using the GIQLI Score (a validated scoring system for determination of bowel function) in women undergoing radical surgery for severe rectal endometriosis.

Methods

A prospective cohort study involving all 220 women at the Endometriose in Balans Centre in Den Haag undergoing surgery for rectal endometriosis in 2019/2020 who had had visually complete excision of their disease and who had a segmental rectal resection, rectal disk excision or rectal shave. Patients completed the GIQLI bowel function questionnaire pre-operatively and again at 3 and 6 months postoperatively. All women had pre-operative MRI assessment of rectal disease and postoperative histological confirmation of endometriosis.

Results

Women with rectal endometriosis have an abnormally low GIGLI score preoperatively which is most marked for women with the largest nodules. The mean GIGLI score prior to segmental rectal resection was 87.7 rising to 93.7 at 3 months and 102.9 at 6 months with SD of 19.4, 21.7 and 23.1 respectively.

Conclusions

Women with severe rectal endometriosis have an abnormally poor quality of bowel function prior to any surgery. Segmental rectal resection is associated with a global improvement in bowel function in these women. For too long surgeons have concentrated on the risks of LAR syndrome but even while realising the beneficial effect of such surgery on pain, have failed to realise how poor is the pre-operative bowel function in women with rectal endometriosis and that function improves following excision of disease. It may be postulated that these women with rectal endometriosis have some degree of infiltration around the autonomic nerves which damages bowel function. If this is so, earlier and more aggressive treatment is required.

One year laparoscopic versus open hysterectomy readmission rate – a retrospective study

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Background

Readmission to hospital is multifactorial, it is a measure of outcome related to the quality of care and it should be monitored. It is defined as unplanned readmission within 30 days of surgery. With this study, we established how we compare with the national benchmark and identified possible areas for improvement.

Methods

This is a one year, retrospective study from 1/1/2019 till 31/12/2019 at Sandwell and West Birmingham hospitals NHS trust. The cases were identified and cross-referenced by the coding department selecting those readmitted within 30 days. We reviewed and analysed all of them. We collected multiple variables as per the results. We used the Royal College of Obstetricians and Gynaecologists benign gynaecology indicators report 2015-2016 as our standard.

Results

In 2019 we performed 1295 benign gynaecology surgeries, 468 laparoscopies, 246 open, 357 hysteroscopies, and 60 vaginal procedures.

The readmissions for each group were 8 (1.7%), 2 (0.8%), 3 (0.84%), and 1 (1.6%) respectively. A total of 8 patients were readmitted following hysterectomy procedures.

The mean age and BMI of readmitted patients were 51 and 34 respectively.

Out of 107 cases of laparoscopic hysterectomy, there were 5 (4.6%) readmissions. The causes were, urinary tract infection, Urinary retention, vault haematoma, sepsis and chest pain, representing 20% each. The patients with infection were treated with broad-spectrum antibiotics and most were discharged within 24 hours, the patient with chest pain was discharged the following day after ruling out pulmonary embolism and cardiac pathology requiring only analgesia.

Out of 214 cases of abdominal hysterectomy, there were 3 (1.4%) readmissions. All the cases were due to wound infection, treated with broad-spectrum antibiotics and discharged within 24 hours.

We explored whether the length of hospital stay after index surgery was associated with higher readmission rates but we did not find evidence of this.

Conclusions

Our readmission rate after Laparoscopic hysterectomy is in line with the national average 4.6% vs 4.9%.

Our readmission rate after abdominal hysterectomy is better than the national average 1.4% vs 5.5%.

Infection was the main reason for readmissions, 20% of cases but still better than the national average of 25% of cases. We plan to minimise our patients' risk of re-admission by enhancing their counselling about wound care and postoperative pain, how to manage them as well as explore the use of video patient information from RCOG resources.

Preoperative pain measurements in relation to (deep) endometriosis classification with Enzian

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Background

Attempts have been made (Enzian, rASRM) to capture endometriosis in one classification system, however the rASRM does not include deep endometriosis (DE) and the Enzian system is not suitable for non-DE cases. Earlier attempts to correlate pain symptoms to location of endometriosis showed contradictory results and are based on small sample sizes

Methods

A prospective multicentre endometriosis classification study in 419 surgical DE cases from February 2019 through June 2020. Correlations between solitary Enzian compartments as well as combinations of compartments, were correlated to pain symptoms. Furthermore, a Receiver Operating Characteristic (ROC) analyses was performed to determine if symptoms predict endometriosis involvement.

Results

In general, more extensive involvement of DE would not lead to an increase in numerical rating scale for pain measures. However, dysuria and bladder involvement do show a clear relation (AUC 0.62 (SE 0.04, CI 0.54-0.71, $p < 0.01$)). Regarding the predictive value of dyschezia, we found a weak, but significant relation with ureter involvement; AUC 0.60 (SE 0.04, CI 0.53-0.67, $p < 0.01$).

Conclusions

The symptom dyschezia can have predictive value for ureter involvement, this translates to the pre surgical workup that DE patients with dyschezia should get ultrasound- or MRI diagnostics to detect possible ureter involvement. Regarding dysuria and bladder endometriosis, minor bladder symptoms can predict the presence of bladder endometriosis already.

**ES30-0076 -
Hysteroscopic Surgery**

SELEC Sino European Life Expert Centre an innovative hysteroscopic dedicated unit

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Background

The Sino European Life Expert Center has been established in Shanghai Renji Hospital on August 1st 2021. This is the first center ever built completely dedicated to the hysteroscopic treatment of all endometrial disorders. On a daily basis, patients are seen at the general outpatient clinic of Renji hospital in a dedicated unit. According to the indications for uterine diagnostic procedures patients are transferred to the Sino European Life Expert Centre to perform a Transvaginal Ultrasound and a Trophy-scope Diagnostic Hysteroscopy without anaesthesia. Depending on the indication, supplementary eye directed endometrial biopsy is performed. Major Operative Hysteroscopy surgeries are only planned for patients undergoing diagnostic hysteroscopy and only after receiving the anatomopathological result. This general workflow is subject to modifications in case patient's clinical conditions require diagnostic hysteroscopy performed under general anaesthesia. Major operative hysteroscopy is performed with the 24FR Shaver (IBS®) and with the 22Fr Bipolar Resectoscope.

Methods

Patients afferent to the Centre from 2020.08.01 to 2021.03.31 have been included in the study. All medical records and operation reports have been carefully analyzed.

Results

N.1241 diagnostic hysteroscopy has been performed in our center. For N.852 patients the pathological result was confirmed and therefore an Operative hysteroscopy was scheduled. For N.389 no major pathological result was found and medical therapy or careful follow up was indicated. N.966 Operative hysteroscopy have been performed. N.962 patients have been treated with the (IBS®) while the 22 Fr. Resectoscope was used in only n.4 cases. In the IBS® group, the mean patients age was 42.15 years old with N. 156 (16.22%) postmenopausal women. N.426 (44.28%) patients came to our attention for abnormal ultrasound findings without symptoms, N.381 (39.60%) for abnormal uterine bleeding, N.76 (7.90%) for menorrhagia, N.18 (1.87%) for dysmenorrhea, N.14 (1.45%) for infertility, and N.13 (1.35%) for pelvic pain. In the IBS⁰ group we have reported n.5 (0.52%) cases of fluid overload n.2 (0.21%) cases of perforation, and 2 (0.21%) cases of post-operative bleeding requiring bipolar prop coagulation. N.1 perforation had no consequences while in one perforation a bowel injury requiring laparoscopy occurred. Due to the small number of Resections no complication was reported.

Conclusions

The aim of the present study is to describe our Centre in order to assess the validity of our workflow and organization in a Public Chinese Hospital. Due to the high number of patients the challenge is to be able to offer a high quality service for Ambulatory and Operative hysteroscopy in well-organized Unit as the Sino European Life Expert Centre.

The social media era: the impact of fake news on women affected by endometriosis

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Background

Social Media has provided a broad public with ready information concerning health issues. It is not easy to ascertain the reliability of data sources, especially for non-medical users, and the risk of spreading inaccurate news is considerable. Most women with endometriosis use social media to get emotional support, also due to the considerable impact of this disease on their psychological wellbeing. Our aim was to evaluate women's ability to recognize fake news and to identify which factors make them more likely to believe it.

Methods

We screened the most popular social media to identify the most common fake news about endometriosis. We selected only those topics found by at least four out of six gynaecologists, coming up with six erroneous statements. Between March 2020 and March 2021, we enrolled patients aged between 18 and 45 years, referred to our Center on suspicion of endometriosis. Women filled in three validated questionnaires for the evaluation of endometriosis-related symptoms and anxiety levels: the Generalized Anxiety Disorder-7 (GAD), the Spielberg State-Trait Anxiety Inventory (STAI)-Y6 and the Endometriosis Health Profile – 5 (EHP-5). Additionally, they were asked to judge the plausibility of the statements found by our doctors using a 5-point scale.

Results

A total of 172 women were considered for the study, 97 of which were included in our analysis. Most of them (66.0%) spent between one and three hours daily searching the Internet for information about endometriosis, and the most common data source were social networks (54.6%). A higher STAI-Y6 score was associated with a higher risk of finding fake news about endometriosis (OR 1.05, 95% C.I. 1.01-1.09, $p = 0.013$). Seventy-four women (76.3%) had encountered fake news. The impossibility of pregnancy was found by 54.6% of women, with 60.7% of them considering it moderately or highly credible and 6% completely plausible. Fake news about endometriosis being treated exclusively by diet or surgery was found respectively by 39.2% and 41.2% of patients, whereas 51.5% of them found that only laparoscopy can diagnose endometriosis.

Conclusions

Our study showed that fake news' plausibility increases with their diffusion among patients. Gynaecologists should be aware that a growing number of women are using the Internet as their primary source of information. However, many of them may incur in wrong but easily believable medical advice, which might be difficult to disprove and may hinder the doctor-patient relationship. The Internet is a powerful source of knowledge and clinicians should consider taking an active role on social media, to correctly inform women about endometriosis and belie unhealthy misconceptions.

**ES30-0087 -
Hysteroscopic Surgery**

Very high long-term satisfaction rates in patients after Essure® sterilization: has its withdrawal from the market deprived women of an efficient sterilization method?

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Background

The objective of our study was to assess the rate and causes for Essure® micro-insert system removal and patients' long term satisfaction rate with the procedure.

Methods

All patients who underwent Essure® hysteroscopic sterilization at our tertiary centre between years 2007 and 2018 were included in this follow-up study. Questionnaire was sent to all patients per standard mail. Satisfaction with the Essure sterilization, as well as any additional procedures after insertion or insertion-related complications were analysed.

Results

From 2007 to 2018, we performed 427 Essure® hysteroscopic sterilizations. Of these, 206 patients responded to the questionnaire (48.2% response rate). Mean follow-up period was 68.3 ± 27 months. Two patients (1%) had Essure® removal, both during gynaecological procedures that were unrelated to the Essure®. Patients were very satisfied with the procedure (average 9.8 on a scale from 0 to 10). Most patients (98%) would recommend the procedure to their friend.

Conclusions

There were no Essure micro-insert system removals due to sterilization-related complications in our long-term follow-up study. Essure® hysteroscopic sterilization is a safe and effective procedure with a very high satisfaction rate.

Pathological diagnosis of thoracic endometriosis

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Background

The aim of this report is to underline the need for estrogen and progesterone receptor staining to confirm thoracic endometriosis by presenting a case and review of available literature.

Case Description: A 26-year-old woman, suffering from thoracic endometriosis was treated by video-assisted thoracoscopic surgery, revealing endometriosis-like lesions. Basic histopathology did not confirm the visual diagnosis, but additional staining with estrogen and progesterone receptors could prove thoracic endometriosis.

Methods

A literature search was performed on histopathology and immunohistochemical staining in catamenial pneumothorax cases. In total we could include 10 studies.

Results

The studies comprise 408 cases of, mainly catamenial, pneumothorax, of which 111 (61.7%) patients were diagnosed with thoracic endometriosis by histopathology with H&E staining. When additional staining with ER and PR was performed, respectively 148 (82.2%) and 158 (87.8%) patients could be diagnosed.

Conclusions

This case and literature review shows that catamenial pneumothorax can be easily missed and hopefully raises awareness of this condition and encourages physicians to stain with estrogen and progesterone receptors on thoracoscopically taken biopsies. This seems to improve diagnosis, but still many cases are not picked up by these additional methods and future research should focus on additional diagnostic tools.

In vitro fertilization treatments are associated with high preoperative diagnosis rate of adnexal torsion

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Background

We aimed to study preoperative risk factors for surgically confirmed adnexal torsion following in vitro fertilization (IVF) treatments.

Methods

A retrospective cohort study from a tertiary, university-affiliated medical center. We included women operated for suspected adnexal torsion following IVF treatments between March 2011 and March 2021. Women with surgically confirmed adnexal torsion were compared to those without.

Results

Overall, 112 women following IVF treatments were operated laparoscopically for a suspected adnexal torsion. A total of 104 (92.6%) had surgically confirmed adnexal torsion. Both study groups were comparable in demographics, medical history and obstetrical history. Three (37.6%) women vs. 72 (69.2%) were pregnant during laparoscopy ($p=0.113$). Tachycardia was associated with a decreased risk for surgically confirmed adnexal torsion [OR 95% CI 0.09 (0.02-0.44)]. Similarly, the mean heart rate was higher in the no-torsion group (99 vs. 78 beat per minute, $p=0.047$). Physical examination and sonographic characteristics did not differ between groups. A "whirlpool sign" was noted in three cases, all of them in surgically confirmed adnexal torsion group.

Conclusions

Accurate preoperative diagnosis rate of adnexal torsion following IVF treatments is high. Higher mean heart rate and tachycardia were the only factors associated with the absence of adnexal torsion, possibly suggesting a diagnosis other than adnexal torsion.

ES30-0093 - Endometriosis

Adenomyosis in MIGS (new progressive vistas)

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Background

Objective: Minimally invasive approach in the treatment of adenomyosis within the uterine and fertility-sparing surgery, mainly for focal adenomyosis in office-settings is safe and effective treatment. It can be performed in local analgesia (with or without a combination of analgesics) in selected patients in office-settings, thus avoiding the risks of general anaesthetic. Fertility preservation and/or quality-of-life improvement can be achieved.

Adenomyosis of the uterus is defined as the presence of endometrial tissue, including glands and stroma, situated at least 2.5 mm below the endometrial-myometrial junction and widely distributed within the myometrium layer of the uterus. Many women still have a desire to preserve the uterus, for which conservative and uterine-sparing procedures are increasingly used. Although medical management can be effective, similar to the management of uterine fibroids, its effect is often transient and rapid regrowth of adenomyosis and relapse of symptoms and signs always occur once the treatment is stopped. Therefore, other strategies should be selected.

Methods

Design: Case report Setting: Office-settings

Our experience and results in office-settings with a focal variants of adenomyosis (adenomyomatous cyst, adenomyoma and a rare variant - polypoid adenomyoma), often associated with pelvic pain, dysmenorrhea and infertility. The most common surgical treatment for adenomyosis is laparoscopic resection, but here we used the hysteroscopic approach, which may allow for an alternative minimally invasive surgical approach.

Results

The main results of a minimally invasive intrauterine approach are disappearance of metrorrhagia, dysmenorrhea, pelvic pain and outcome of pregnancy. Another very important factor is the identification of precancerous lesions.

Conclusions

The minimally invasive intrauterine approach for the treatment of adenomyosis in office-settings is an easy to use, safe procedure with excellent results in experienced hands. It is well suited in office-settings. It has positive outcomes and is an acceptable treatment option for selected patients at the same time in accordance with the need for expert experience with ultrasound diagnostics.

HIFEM technology used for the treatment of pelvic floor dysfunctions in female population: Preliminary data

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Background

The aim is to introduce current possibilities of using HIFEM (High-Intensity Focused Electromagnetic Technology) in the field of pelvic floor disorders & dysfunctions and new views on their use together with current methods.

Methods

A group of women suffering with the most common issues such as urine incontinence (SUI, UUI, MUI, ISD), POP (pelvic organ prolapse), IL (introital laxity), VRS (vaginal relaxation syndrome), VA (vaginal atrophy), SD (sexual dysfunction) and Post-op patients, who would benefit from neuromuscular re-education were treated with HIFEM technology in the pelvic floor area. Ultrasound measurements of the pelvic area along with subject satisfaction were performed before and after the HIFEM procedure. The subjects were furthermore monitored by a physiotherapist focusing on the pelvic floor. The lecture will introduce data based on HIFEM application on the women's population since May 2020 and present the preliminary data of an ongoing prospective study.

Results

The results on a very wide group of patients with their ongoing follow-up are showing significant improvement in the treated conditions, along with high level of satisfaction. The treatments are showing a very fast onset of a significant positive effect, compared to the announced and expected time of the onset of the positive effect, as patients report improvements already after two to three sessions.

Conclusions

The non-invasive HIFEM technology for the treatment of wide group of pelvic organs and functional disorders together with psychological aspects is an easy to use and safe procedure with excellent results. It is well suited in-office procedure with positive outcomes and is an acceptable treatment option, which should be considered as a first choice prior to use of invasive techniques.

Case report of triple metachronous extragenital foci of deep infiltrating endometriosis after caesarean deliveries

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Background

Deeply infiltrating endometriosis (DIE) is a benign disease that grows through organs and causes complex organ related symptoms.

Methods

In the following report, we describe a patient with three different metachronous infiltrating foci, located in the abdominal wall, the bladder and intraspinal canal at the level of L5/S1 respectively.

Results

The 37-year-old, G6 P3, three caesarean deliveries and three extrauterine pregnancies, underwent in total three surgeries for endometriosis. An endometriosis nodule within the right rectus abdominis muscle, 6 cm cephalic to the caesarean section scar was excised 2007, followed 2009 by a laparoscopic resection of DIE of the bladder. Finally, she developed progressive left lumboschialgia with cyclic pain exacerbations unresponsive to conservative therapy leading to the third surgical intervention. Her neurologic status showed the pain related to the dermatome of L5, a fourth-degree foot flexor paresis, a Lasègue test positive, a diminished Achilles tendon reflex compared to the contralateral side. On the preoperative MRI a prolapsed disc with sequester formation of L5/S1 protruding cephalic and intraforaminal was seen. Neurosurgery was performed to decompress the left fifth lumbar radix with extraction of the discus sequester and removal of a 1,2 x 2,4 cm epidural diffusely infiltrating nodule. Histology demonstrated endometriosis.

Postoperatively, the patient was treated with continuous combined oral contraceptives to achieve a secondary amenorrhea and analgesia with pregabalin for residual pain in the left lower extremity. As follow up she had a yearly clinical and gynaecological examination that was complemented with a transvaginal scan and MRI every second year until 2017. The patient did not experience any more relapse for DIE.

Conclusions

Endometriosis lesions of the caesarean scar or the bladder secondary to caesarean sections have been previously described with a reported incidence of 15%. Traumatic dislocation of vital endometrial tissue or endometrial stem cells outside of the uterine cavity during uterine incision with subsequent growth at the adjacent deposited site is believed to be the underlying pathomechanism. The modulatory effects of pregnancy on the immune system may allow ectopic endometriotic cells to survive.

Intraspinal epidural endometriosis however is an extremely rare form of extragenital endometriosis. Diagnosis of the endometriosis of the spine of this patient was delayed for the chronic background pain and the lack of clear catamenial symptoms. To our knowledge only 1 case of spinal extradural endometriosis have so far been reported, so that neither diagnostic nor treatment guidelines can be drawn. In this latest DIE lesion, a haematogenous or lymphatic spread is the most probable aetiology. This case reveals interesting insights into the possible, still puzzling steps from iatrogenic spread to development of endometriosis lesions

Increased incidence of endometrial and ovarian cancer in women with adenomyosis and/or endometriosis

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Background

Women with endometriosis have an increased risk of ovarian cancer and small studies also suggest a higher risk of endometrial cancer in women with endometriosis. Studies on adenomyosis (with or without endometriosis) and cancer are scarce. Therefore, we assessed the association between adenomyosis and/or endometriosis and ovarian cancer or endometrial cancer.

Methods

We identified all women with histological proven adenomyosis (85,015 women) or endometriosis (51,544 women) from the Dutch nationwide pathology database (1990-2015) and matched them with women with a benign dermal nevus (132,654 women). Histology results for endometrial cancer and ovarian cancer were retrieved. We estimated crude and age-adjusted incidence rate ratios (IRR) for endometrial and ovarian cancer.

Results

We detected 1,455 (1.7%) and 519 (1.0%) endometrial cancer cases in the adenomyosis and endometriosis cohort respectively and 771 (0.6%) endometrial cancer cases in the nevus group. We found 1,284 (1.5%), 1,017 (2.0%) and 471 (0.4%) ovarian cancer cases in the adenomyosis, endometriosis and nevus cohort, respectively.

The age-adjusted IRR for endometrial cancer was 90.49 (95%CI 80.28-102.01) in the adenomyosis cohort and 16.85 (95%CI 14.49-19.60) in the endometriosis cohort. After excluding the first year of follow-up the increased endometrial cancer incidence remained in the adenomyosis cohort with an age-adjusted IRRs of 1.61 (95%CI 1.05-2.48) but no increased incidence was found in the endometriosis cohort.

The age-adjusted IRRs for ovarian cancer were 5.93 (95%CI 4.91-7.16) in the adenomyosis cohort and 19.75 (95%CI 16.70-23.35) in the endometriosis cohort. The highest IRRs were found for endometrioid and clear cell ovarian cancer subtypes.

Excluding the first year of follow-up in both cohorts did not result in a significant IRR for ovarian cancer overall. However, we found a statistically significant age-adjusted IRR of 2.51 (95%CI 1.29-4.90) for endometrioid ovarian cancer in the adenomyosis cohort. Additionally, we found a statistically significant age-adjusted IRR of 3.92 (95%CI 2.19-7.01) for clear cell ovarian cancer and 2.39 (95%CI 1.28-4.45) for endometrioid ovarian cancer in the endometriosis cohort.

Conclusions

We found an increased endometrial and ovarian cancer incidence in both histological proven adenomyosis and endometriosis. Adenomyosis was more associated with endometrial cancer and endometriosis was more associated with ovarian cancer. This study shows that gynaecologists should be aware of an increased endometrial cancer and ovarian cancer incidence in women with adenomyosis as well as women with endometriosis.

Safety and efficacy of Womed Leaf™, a novel barrier film to prevent intrauterine adhesion formation after hysteroscopic myomectomy: The PREG1 clinical trial

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Background

Hysteroscopic myomectomy is the gold standard for the management of women with type 0, 1 and 2 leiomyomata suffering from bleeding disorders or subfertility. However, it carries the risk of postoperative intrauterine adhesion formation (IUA). The prevalence of IUAs following myomectomy continues to be high and varies significantly across the literature (7.5% - 45.5%). IUAs can lead to recurrent pregnancy loss, infertility, abnormal placentation, menstrual abnormalities, and pain.

The Womed Leaf(TM) intrauterine adhesion barrier film (Womed SAS, France) is a degradable polymer film (DPF) designed for insertion into the uterus like an IUD, that self-expands and keeps the uterine walls separated. After approximately one week, it degrades to be naturally discharged through the cervix.

The objective of this first-in-human study was to evaluate the safety of the novel adhesion barrier film and its potential efficacy in preventing IUAs after hysteroscopic myomectomy.

Methods

PREG1 (trial registration number NCT04381728) is a prospective, multi-center, international, single arm, first-in-human clinical study. Women over 40 years with no plans to conceive who qualified for transcervical resection of myoma (TCRM), with at least one 10 millimeter type 0, 1 or 2 myoma were considered eligible for the study.

Women underwent TCRM, immediately followed by DPF insertion and ultrasound verification to confirm the DPF deployment. All patients were contacted by phone 30 days after the TCRM to check for any potential adverse events (AE). A follow-up hysteroscopy was scheduled 4-8 weeks after the TCRM in order to assess for presence of postoperative IUAs or DPF remnants.

Results

23 women were enrolled between December 2019 and January 2021, from six centers in France, Belgium and the Netherlands. The myomas were type 0, type 1 and type 2 in four, ten and nine of the patients respectively. The device was successfully delivered on first attempt and rated as easy in all cases. The DPF was visible using an endovaginal 2D or a 3D ultrasound in 22/23 women (96%). There were no device-related AE. Of the 23 women, 13 noticed the DPF discharge 6 days on average after surgery, with a discomfort level of 1.9 on a scale of 10. At second look hysteroscopy, 20 of the 23 women (87%) were free of IUAs, and no residual DPF was found in the uterine cavity.

Conclusions

Womed Leaf™, the first mechanical barrier specifically designed to prevent IUA up to one week after hysteroscopic surgery, is a novel, safe, easy to apply device with very promising initial efficacy data. Larger, randomized studies are now needed to robustly confirm its efficacy for intrauterine adhesion prevention.

**ES30-0110 -
Technical innovation in minimal invasive surgery**

Dynamic visual analogue scale used during office hysteroscopy

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Background

Minimally invasive procedures are preferred in healthy care system all over the world. In gynaecology surgical interventions, especially intrauterine surgeries are produced more and more in office setting. Office hysteroscopy gives the opportunities to treat most of the intrauterine lesions. Main question about in-office procedures is the anxiety and pain experienced by the patient. Visual analogue scale (VAS) is used for many types of intervention. Factors of the surgery and values objectivized by VAS are evaluated by many researchers. Analyzing these data consequences could be drawn about the conditions of an intervention and the caused pain. However, these widely used methods with different types of VAS are giving a static value, a score that is characteristic for the surgery. Using a dynamic scale, while the current value can be recorded second-by-second, could give more precise information not only about the procedure, but the steps, movements, sections of the procedures, as well.

Methods

Selective perturbation during office hysteroscopy was performed in five cases. Indication of the procedure was infertility and all five patients were nulliparous. During the procedure experienced pain was recorded with a newly developed method. While no anesthesia was used, patient recorded the current value of experienced pain, by sliding the cursor on a tablet. Having the continuously changing values in a table, after the procedure, by following the surgical video, scores could be correlated to the steps of the hysteroscopy.

Results

As a preliminary study, DVAS was used in five cases of office hysteroscopy. Mean age of the patients was 28 years (± 4.95). The mean value of retrospective VAS was 3.4 (± 1.14) for the five procedures. Surgery was divided into 4 parts: pathing the cervical channel, entering the uterine cavity, looking around the cavity, performing selective tubal test. Recording the level of the pain was continuously. Parallel analysis of the surgical video and the changes of values shows that during by-pathing of the cervical channel and tubal test could increase the experienced pain. During the visualization of the uterine cavity lower values of VAS could be detected. Retrospectively assessed pain was lower in 4 out of 5 cases compared to averaging the 4 VAS of the sections.

Conclusions

Experienced pain is one of the leading factors of office surgical procedures. Rectifying these data by using VAS could help in developing less harmful and painful methods. Introducing DVAS could be helpful in modifying and refining technique of surgeries, by observing the steps or sections of the procedure separately. This newly developed method can be used in other fields of medicine, where procedures are performed in ambulatory setting.

The association between PCOS and Y-shaped uterus

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Background

The prevalence of congenital uterine anomalies is 5.5% in an unselected population and 13.3% in infertile women. Although there's scarce information on the significance of Y shaped uterus and its impact on fertility outcome, there may be a relationship with polycystic ovary syndrome (PCOS), particularly in women with higher AMH levels. The aim of this study was to determine the relationship between PCOS and Y shaped uterus.

Methods

This retrospective cohort study was performed at a Reproductive Health and Research Center between January 2019 and December 2019. A total of 213 patients aged 18-45 years old, referred with primary infertility, and assessed for the diagnosis of polycystic ovary syndrome (PCOS) at admission according to the Rotterdam criteria. The exclusion criteria were history of previous abdominal or hysteroscopic uterine surgery. Demographic variables such as age, AMH, FSH, LH, TSH, prolactin were achieved from the hospital records. The images of all patients were re-evaluated by two separate physicians who were blinded to the initial diagnosis, presence or absence of PCOS, each other, and descriptive measurements. The effect of hysteroscopic correction on pregnancy outcomes in patients with a Y-shaped uterus was also compared.

Results

Among all, 57 patients had PCOS (26.8%). Demographic variables and baseline hormone levels were similar between the groups except AMH and FSH. The median serum AMH level was significantly higher (5 ng/ml vs. 0.9 ng/ml, respectively; $P<0.001$), and the median serum FSH level was significantly lower in the PCOS group than the controls (6 mIU/ml vs. 9 mIU/ml, respectively; $P=0.005$). The rate of Y-shaped uterus was significantly higher in PCOS when compared to non-PCOS (24.6% vs. 7.7%, respectively, $P=0.002$). A Y-shaped uterus diagnosis was made when it was confirmed by both authors. Among all, the authors diagnosed 29 women with Y-shaped uterus and agreed on 25 diagnoses (inter-observer agreement rate 86.2%). According to the measurements from the agreed images the diagnostic criteria for Y-shaped uterus have been specified as the presence of lateral indentation angle in the range of 121-159°, lateral indentation depth between 4-7 mm, and Y-angle between 25-46°. The Y-shaped uterus was the most common uterine anomaly in the PCOS group. Of the 20 patients with a Y-shaped uterus who were treated with ICSI-ET, 11 had hysteroscopic metroplasty before ET. The clinical pregnancy rates were similar between patient who underwent hysteroscopic metroplasty and who did not (36.4% vs. 44.4%, respectively; $P=0.135$).

Conclusions

Among infertile women, there is a significant relationship between PCOS and Y-shaped uterus.

Ultrasound diagnosis of endometriosis and migraine: is there any correlation between different types of endometriosis and migraine? Preliminary results of EndoMigraine Study

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Background

To evaluate the association between endometriosis/adenomyosis and migraine; to study migraine features in patients with endometriosis and to correlate the presence of migraine with the specific site of endometriosis.

Methods

This prospective observational study included patients in fertile age with an ultrasound diagnosis of endometriosis/adenomyosis and concomitant migraine (Group A), patients with an ultrasound diagnosis of endometriosis/adenomyosis without migraine (Group B), and patients with an established diagnosis of migraine and without endometriosis (Group C). All patients included underwent 2D, 3D and power Doppler ultrasound (US) pelvic examination (transvaginal and transabdominal). Medical history and symptoms were collected for each patient as usual before the US examination. All possible locations of endometriosis were evaluated and recorded using a US dedicated mapping sheet. All these patients were not taking any hormonal therapy at the time of the enrolment. The diagnosis of migraine was performed according to the International Classification of Headache Society 3rd Edition (IHS ICHD-3) [2]. Migraines features were studied using the Migraine Disability Assessment Test (MIDAS score) and the Headache Impact Test (HIT-6 score).

Results

68 patients with a diagnosis of endometriosis (mean age: 33.7±8.5 years) were enrolled in this study. In this cohort, 24 (35%) patients were included in group A and 44 (65%) in group B. Group C included 21 patients. Regarding the specific localization of endometriosis, in group A patients showed significantly higher presence of endometriomas and rectal endometriosis than group B ones (60% vs 16.7%; p=0.034 and 70% vs 25%; p=0.022, respectively). Moreover, DIE was more likely detected in group A patients (90%) than group B ones (66.7%), mainly involving utero-sacral ligaments. We did not observe any significant difference in terms of adenomyosis between the latter two groups. With regard to characteristics of migraine, interestingly, all patients (100%) from group A were suffered from episodic migraine (less than 15 days/month), of which 19 (80%) showed migraine without aura. In addition, group C patients were more likely to show a higher frequency of migraine attacks per month and a prevalence of migraine with aura compared to group A ones (5.8±2.1 vs 5.1±1.7 and 33.3% vs 20%, respectively). MIDAS score was significantly increased in group C patients (29.9±11.4) compared with group A ones (20.3±7.3, p=0.022). Finally, no significant differences in terms of HIT-6 score were found between the groups.

Conclusions

The rate of migraine in patients with endometriosis is 35%. We noticed a high prevalence of episodic migraine and migraine without aura in these patients. The most frequent localization of endometriosis were ovarian endometriomas and rectal endometriosis. In patients with endometriosis, migraine should be closely investigated; further studies should be performed focusing on therapeutic strategies and quality of life of these women.

Vaginal Natural Orifice Transluminal Endoscopic Surgery (VNOTES) in the Philippines: Our Initial Experience

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Background

Starting to learn VNOTES can be quite unnerving. Our objective is to present the experience of a tertiary training hospital in the Philippines in performing VNOTES.

Methods

Description of our surgical technique among women undergoing VNOTES for benign indications.

Results

We will present the Philippine experience on our initial cases of VNOTES. We formulated 10 systematic steps in the procedure. (1) insertion of anterior and posterior retractor, (2) infiltration of epinephrine, (3) posterior colpotomy, (and anterior colpotomy for hysterectomy) (4) positioning of the port, (5) placement of the cherry ball, (6) placement of port cover, trocars and creation of pneumoperitoneum, (7) proceed with hysterectomy/ adnexal procedure, (8) removal of the specimen, (9) removal of the cherry ball, trocars and port, (10) suturing of the vaginal cuff or posterior cul-de-sac.

Conclusions

VNOTES is a safe and feasible option for surgical management of select cases.

**ES30-0118 -
Technical innovation in minimal invasive surgery**

Robotic single-port myomectomy using the da Vinci SP surgical system: a pilot study

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Background

To report our initial experience with robotic single-port myomectomy (RSPM) using the da Vinci SP surgical system and to evaluate the feasibility of the procedure.

Methods

From January 2019 to December 2019, 61 women were enrolled. The patients had received RSPM using the da Vinci SP surgical system.

Results

The mean age and body mass index of patients were 38.5 ± 6.0 years and 22.7 ± 3.0 kg/m², respectively. They were arbitrarily divided into group 1, consisting of 44 women with fewer than 7 resected fibroids and a maximal diameter of resected fibroids < 10 cm, and group 2, consisting of 17 women with ≥ 7 resected fibroids or a maximal diameter of resected fibroids ≥ 10 cm. The mean number and maximal diameter of the removed fibroids were 3.7 ± 3.8 (2.3 ± 1.8 in group 1 vs. 7.2 ± 5.3 in group 2) and 7.6 ± 2.9 cm (6.8 ± 1.6 in group 1 vs. 9.5 ± 4.3 in group 2), respectively. The mean operation time, hemoglobin change, and hospital stay were 149.9 ± 72.9 minutes (123.8 ± 43.8 in group 1 vs. 217.6 ± 89.4 in group 2), 2.3 ± 1.0 g/dL (2.1 ± 0.9 in group 1 vs. 2.7 ± 1.2 in group 2), and 4.5 ± 0.8 days (4.4 ± 0.8 in group 1 vs. 4.7 ± 0.9 in group 2). There was no conversion to multi-port laparoscopy or laparotomy nor were there any major complication

Conclusions

RSPM using the da Vinci SP surgical system is feasible surgical modality for women with symptomatic fibroid and is expected to increase indications of single port myomectomy by solving many of the ergonomics problems inevitably accompanying single port laparoscopic myomectomy.

Indocyanine green fluorescence angiography after full-thickness bowel resection for recto-sigmoid endometriosis: a multicentric experience with quantitative analysis

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Background

Near-infrared fluorescence with indocyanine green (NIR-ICG) enables surgeons to better visualize tissue vascularization. To increase the NIR-ICG accuracy, quantitative analysis of time-fluorescence intensity curves at the anastomotic site has been developed during general surgery procedures. The aim of the study was to evaluate effectiveness and reproducibility of quantitative NIR-ICG analysis after full-thickness bowel resection for rectosigmoid endometriosis (RSE).

Methods

The study was designed as a multicentric, observational, prospective, pilot study and carried out in three tertiary level referral centers for endometriosis from November 2019 to July 2020. Thirty-three consecutive symptomatic patients scheduled for minimally invasive full-thickness excision of RSE were enrolled. Exclusion criteria were: age less than 18-year-old, menopausal status, contraindications to minimally invasive surgery, allergy to iodine, inflammatory bowel diseases and previous full-thickness bowel resection for RSE. After the creation of the anastomosis, a bolus of 0.25 mg per kg of ICG was injected in a peripheral vein. Fluorescence was visible on the bowel wall through the activation of the NIR camera-head with laparoscope placed at the shortest distance required to capture the entire anastomotic site. The NIR camera-head recorded the fluorescence images for 5 min after ICG injection. Surgical videos were stored and examined; two surgeons, blinded to clinical data, used independently software to create four regions of interest (ROI) at the following areas: the highest and lowest fluorescence areas of the proximal bowel and the highest and lowest fluorescence areas of the distal bowel. Time-fluorescence intensity curves for these areas were extrapolated and for each curve T1/2 (time from first fluorescence increase to half of maximum) and TR (time ratio, $TR = T1/2 / T_{max}$) were calculated. Slow bowel perfusion was defined by $T1/2 > 18$ s and/or $TR > 0.6$. NIR-ICG predictive accuracy was assessed by calculating sensitivity, specificity and area under the curve on receiver operating characteristic curves. NIR-ICG reproducibility was assessed through Cohen's k coefficient to determine inter-operator agreement between 2 observers.

Results

Quantitative NIR-ICG evaluation was successfully performed in 30 cases, while 3 cases were not evaluable because of technical artefacts. Of 30 patients, 2 (6.6%) developed bowel fistula. In predicting bowel fistula, quantitative NIR-ICG evaluation showed sensitivity of 100%, specificity of 92.9%, and AUC of 0.964. Inter-operator agreement rate in the post-operative positioning of the ROI was very good (k 0.81 [95% confidence interval, 0.7 -0.9] for T1/2 and k 0.93 [95% confidence interval, 0.8-1] for T_{max}).

Conclusions

Quantitative NIR-ICG evaluation is an effective and reproducible tool for anastomotic perfusion assessment after discoid or segmental resection for RSE. Further studies are necessary to confirm these results and to assess the applicability of quantitative NIR-ICG assessment during surgery.

Sustainable decision making in minimally invasive surgery in gynaecology: challenges and opportunities to reduce the CO₂ footprint

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Background

Climate change is one of the greatest threats to global health this century. The carbon footprint of the healthcare sector is equivalent to 7% of the total carbon footprint in the Netherlands. As healthcare professionals we are responsible for the well-being of our patients, which includes a healthy environment. Besides treatment decision making (TDM) and use of medical instruments based on e.g. cost-effectiveness, professional view and patient preferences it is necessary to integrate sustainable decision making (SDM) in the healthcare sector. We review the existing literature on carbon footprint calculations, life cycle analyses and sustainable strategies within minimally invasive surgery (MIS), to clarify the sustainable options and thereby emphasize the importance of embracing sustainable decisions to reduce the carbon footprint and improve global health.

Methods

A narrative review is conducted and the Cochrane Database, Embase, Ovid MEDLINE, and PubMed were searched according to the inclusion criteria.

Results

In MIS there are various options to make sustainable decisions and contribute to reduction of the carbon footprint. The reusable stainless steel speculum was found to produce fewer life cycle CO₂e emission profiles than the equivalent number of acrylic specula after 2 completed examinations. The use of reusable surgical gowns results in a reduction of energy consumption, greenhouse gas emissions, water consumption and waste generation. Life cycle assessment of hysterectomy shows that major sources of environmental emissions include the production of disposables, anaesthetic gases and energy used for heating, ventilation and air-conditioning in the operation room (OR). Robot-assisted laparoscopy shows a 38% increase in CO₂ emission based on waste and energy consumption compared to laparoscopy and a 77% increase over laparotomy. Preliminary data demonstrates the possibility of a reduction of 37% of items on instrument trays for minimally invasive procedures.

Conclusions

Climate change has an adverse effect on global health and the healthcare sector is a major contributor. In SDM in MIS in gynaecology, we found the following items have significant impact on the CO₂ reduction in the OR: 1) Explore other treatment options, which weigh sustainability as a factor, before indicating surgery, 2) replace disposable gowns for reusables, 3) pay attention towards the use of disposable versus reusable instruments, 4) carefully consider the indication for a robot-assisted laparoscopic surgery and 5) verify the content of the regular instrument tray to see if reduction of items is possible. It is challenging to implement SDM and in a clinically driven approach, there are several opportunities for the industry, technicians and the healthcare professionals to obtain patient safety in a sustainable world. Opportunities are open for debate.

Hysteroscopic myomectomy with the IBS® Intrauterine Bigatti Shaver a retrospective comparative analysis

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Background

The Intrauterine Bigatti Shaver “IBS®” has proven to be a very promising innovative new instrument for submucosal myomas removal. The aim of this study will be to assess whether different rotation and aspiration settings will affect the results of hysteroscopic myomectomy with the IBS®.

Methods

A retrospective analysis was performed between Italian group (Group A) and Chinese group (Group B). Group A used the IBS® with a rotational power of 2500 RPM and a suction of 250ml/min (from June 2012 to January 2018 at the Università degli Studi di Milano in Italy) while Group B used the IBS® rotational power of 1500 RPM with a suction of 500ml/min (from July 2019 to March 2021 at RenJi Hospital, Shanghai JiaoTong University, China). All patients were additionally divided into two subgroups according to the myomas diameter (sub-group A1/B1 (≤ 3 cm) and sub-group A2/ B2 (>3 cm~ <5 cm)). All clinical data such as cervical canal dilatation time, resection time, total operation time, fluid deficit, bleeding, hospitalization time and complications were evaluated.

Results

107 women underwent hysteroscopic myomectomy with the IBS® in the Italian group (Group A), while 84 women in the Chinese group (Group B). Both groups were similar for age, parity, symptoms, myomas types and mean myoma diameter ($P>0.05$). Our results showed that there has been a statistically significant difference regarding resection time (18.30 ± 14.37 min VS 9.12 ± 8.10 min, $P<0.001$), total operation time (30.23 ± 18.53 min VS 19.51 ± 9.46 min, $P<0.001$) and total amount of fluid used (3807.23 ± 2694.16 ml VS 5800.94 ± 6332.30 ml, $P<0.01$) between Group A and B. There has been no statistically significant difference in terms of cervical dilatation and fluid deficit between the two groups. Also, between sub-group A1 and B1 (< 3 cm), we have reported a statistically significant difference in terms of resection time, operation time and total amount of fluid used ($P<0.001$). Our results showed no difference in terms of resection time and total amount of fluid used between sub-group A2 and B2 (>3 cm~ <5 cm). However, the total amount of fluid used in sub-group B2 has been significantly less than in sub-group A2. A complete one-step myoma removal with the IBS® has been observed in all patients in Group B, while all patients in sub-group A2 (>3 cm~ <5 cm) underwent a second step IBS® procedure or a conversion to conventional bipolar resectoscope.

Conclusions

All patients treated in the Chinese Group have shown a statistically significant better results in terms of resection time, total operation time and total amount of fluid used especially for all myomas type (G0-2) with a <3 cm diameter compared to the Italian Group. We believe that this improvement is related to our better knowledge of the equipment (Rotational power of 1500 Rpm with a suction power of 500 ml/min).

Different segmental resection techniques and surgical outcomes in patients with colorectal endometriosis: a comprehensive review of the literature

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Background

Segmental resection for colorectal endometriosis includes different surgical variations. Preservation of the autonomous nerve plexus and mesenteric inferior and/or rectal artery during dissection represent surgical variants that have been advocated in the recent years lacking a scientifically proven benefit of one technique over the other. The present work aims to analyze the available literature to assess the possible effects of different segmental resection techniques on surgical outcomes regarding perioperative morbidity and complications and postoperative sequelae.

Methods

Pubmed, Clinical Trials.gov, Cochrane Library, and Web of Science were comprehensively searched from 1997 to 2021 in order to perform a systematic review. The MESH (Medical Subject Headings) terms "bowel endometriosis", "colorectal endometriosis" combined with "segmental resection", "colorectal resection", "radical surgery" and "treatment", "outcomes", "complications" were utilized, combining terms with the search functions "AND" and "OR". An independent investigator (ED) screened titles, keywords, and abstracts for relevant indicators. Studies including patients undergoing segmental resection for colorectal endometriosis including adequate follow-up, data on early and late postoperative complications, postoperative sequelae, and the recurrence rate of endometriosis were enrolled in this review. Selected articles were evaluated and divided in three groups: artery and nerve-sparing resection (ANSR), nerve-sparing resection (NSR), and conventional segmental resection (SR).

Results

A total of 6475 patients, represented across the 50 studies were included in the data analysis. Six studies comprising 430 patients reported on the use of ANSR techniques. In total, 9 studies, including 1505 patients reported on outcomes of NSR and the remaining 35 publications comprising 4540 patients failed to mention the preservation of neither the nerve nor arteries (SR). The mean size of the resected DE lesions and patients' BMI were comparable among the 3 groups, a mean of 3% of rectovaginal fistula development (RVV) was reported in patients who underwent SR compared to 1.5 % and 1.9 % in ANSR and NSR, respectively. Urinary retention (mean 8.8±8%) and long-term bladder catheterization (8.8±11%) were frequently reported in ANSR and NSR. There was insufficient information about pain or the recurrence rates in the 3 groups.

Conclusions

Current data on different segmental resection techniques are inhomogenous and not sufficient to reach a conclusion regarding a possible advantage of one technique over the other. Comparative and prospective studies are needed to evaluate the effect of the technique on surgical outcomes.

Efficiency of surgical treatment of infertility in polycystic ovarian syndrome

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Aim

To evaluate the frequency of menstrual cycle recovery and pregnancy rate in patients with polycystic ovarian syndrome (PCOS) and infertility who underwent surgical treatment.

Background

Despite the progression of conservative therapy and the expansion of the possibilities of assisted reproductive technologies (ART), surgical treatment of PCOS does not lose its relevance. The frequency of this disease is high, according to various literature sources is from 9 to 18%. Today it is one of the most common diseases in women of reproductive age. The main methods of surgical treatment of PCOS are: laparoscopic drilling and laparoscopic wedge resection. However, until now, there were no accurate data on the long-term effects of surgery on ovarian function, reproductive outcomes, and no clear criteria were developed to determine the correct method of surgical treatment for women with PCOS.

Materials / Patients

115 patients were examined and treated in the Department of Operative Gynaecology from 2018 to 2020. This study was a single center, prospective, simple, randomized trial of two comparison groups. In group I (N=62) bilateral laparoscopic ovarian drilling was performed, and in group II (N=53) bilateral laparoscopic wedge resection was performed. In the absence of pregnancy within 3 months, the patients were consulted by reproductive scientist to figure out the necessity of controlled ovulation induction (CIO) or ART appliance. In the absence of pregnancy within 6-12 months, IVF was recommended.

Methods / Results

99.1% of the patients were diagnosed with menstrual disorders of the type of oligomenorrhea, chronic oligo-/anovulation when included in the study. After surgical treatment 69.3% and 79.2% of patients in groups I and II, respectively, had a restoration of the regular menstrual cycle. According to the data obtained, the pregnancy rate among all patients included in the study was 47%. When comparing the results between the groups, the pregnancy rate in group II was higher than in group I, and was 58.5% vs 37.1%, respectively.

Discussion

Also, when analyzing the reproductive results in both groups, 3 subgroups were identified: pregnancies that occurred spontaneously, after CIO and after IVF. The spontaneous pregnancy rate in patients of group II was higher than in patients of group I, and was 28.3% vs 12.9%, respectively. The effectiveness of ovulation stimulation and IVF programs in group II were 15.1%, which did not significantly differ from group I, where these indicators were 11.3% and 12.9%, respectively.

Conclusion

Based on our results, the frequency of the regular menstrual cycle recovery and pregnancy rate after surgical treatment of infertility in PCOS by bilateral ovarian wedge resection is higher than by bilateral ovarian drilling

Impact to Patients' Health

The effectiveness of ovarian wedge resection is higher in relation to the onset of spontaneous pregnancy, whereas with the use of CIO and IVF, the effectiveness of both methods of treatment is almost equal

Implementation of the International Ovarian Tumor Analysis (IOTA) models in Dutch gynaecological practice: a survey among hospitals in the Netherlands

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Background

The International Ovarian Tumor Analysis (IOTA) group has developed new models with high diagnostic accuracy to predict the possibility of malignancy in patients with an adnexal mass. Objective of this study was to gain insight in the current implementation status of the IOTA models in Dutch hospitals and to gain insight in impeding and promoting factors for implementation.

Methods

In February 2021, an electronic questionnaire was sent to all Dutch hospitals. One pre-selected gynecologist was approached per hospital and was asked to reply on behalf of the department. The questionnaire consisted of 37 questions concerning the use and the experience with the IOTA models.

Results

Response rate was 93% (67/72 hospitals) after three reminders. All respondents (100%) were familiar with the IOTA models and 86%, 94% and 94% were familiar with respectively the logistic regression model 2 (LR2)-model, Simple ultrasound-based rules (SR) and Assessment of Different NEoplasias in the adneXa (ADNEX) model. Of the respondents that were familiar with one of the IOTA models, 94% used them in clinical practice including 77% that used it always or frequently when examining an adnexal mass. All hospitals that used the IOTA models had at least one gynecologist trained in the terms and definitions formulated by the IOTA consortium. Reasons for use of the IOTA models varied; 64% of the respondents used the IOTA models to decide on surgical or expectant management, 61% to decide on referral, 54% to decide on a cystectomy or oophorectomy and 48% to decide on a laparoscopic or laparotomic procedure. In most regions there were no clear guidelines on above which cut-offs referral to an oncologic center is indicated and respondents mentioned this as an area for improvement.

Respondents rated the models with an 8.2 (SD 1.8), 8.3 (SD 1.6) and 8.9 (SD 1.3) respectively for LR2, SR and ADNEX. Moreover, 87% indicated to have confidence in the results of the IOTA models. According to respondents, most important factors to improve further implementation are more education (43%), further research on sensitivity, specificity and cost-effectiveness in the Netherlands (27%), easier usability of the models (24%) and more time during consultation (20%).

Conclusions

Our survey shows that the ultrasound models developed by the IOTA consortium are implemented in the majority of Dutch hospitals. The high level of confidence and willingness to use the IOTA models are promising. With the new published Dutch guideline on risk assessment strategies for adnexal masses, further research is needed on which of the IOTA models is most beneficial in the Netherlands regarding uniformity, referral strategies and cost efficacy.

From Y to L - Comparison of Y-mesh laparoscopic sacrohysteropexy with laparoscopic loop sacrohysteropexy: Medium-term results

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Background

Laparoscopic sacrohysteropexy (LSH) is widely used in pelvic organ prolapse treatment. Our department initially adopted the Oxford method using the Y-mesh, which is sutured to the anterior cervico-uterine segment. In 2017, we developed laparoscopic loop sacrohysteropexy (LLSH), where mesh is joined above the right sacrouterine ligament (SUL) and attached above both SUL. Our aim was to compare the medium-term results of both techniques.

Methods

We invited the last 15 performed LSH (Group 1) and the first 20 LLSH (Group 2) for a follow-up. History, examination and POP-Q status were obtained. Patients evaluated the procedure success from 0 (not successful) to 10 (completely successful) and filled out the PFDI-20 questionnaire. Data between groups were compared using Chi-square/Fisher's exact test for categorical and Mann-Whitney U-test for numerical data. Since the follow-up period was statistically different between groups, postoperative results were weighted for the follow-up period. Statistical significance was set at p-value<0.05.

Results

Eleven (73.3%) patients from Group 1 and seventeen (85%) from Group 2 responded. There were no statistically significant differences in patients' age, BMI, procedure time, preoperative Ba (2.0±1.7 vs. 2.6±1.8), C (1.9±2.7 vs. 2.6±2.4) and Bp values (2.2±1.1 vs. -2±1.5) and preoperative PFDI-20 scores (94.5±64.4 vs. 92.1±71.8). There was a significant difference in the follow-up period (4.1±0.4 vs. 2.7±0.4 years, p<0.001) and CRADI-8 scores (19.9±17.8 vs. 9.9±17.6, p-value=0.022). At the follow-up, we observed excellent anatomical results in both groups (Table 1). There was one recurrence in Group 1, which required surgery, and one early complication (omental herniation through the suprapubic wound). Group 2 had better postoperative Ba and C values and PFDI-20 scores. There was one case of stress urinary incontinence in Group 1 that required surgical treatment together with two rectoceles and one case of obstipation in Group 2.

Table 1: Follow-up results. ^Δ-weighted results.

Variable	Group 1	Group 2	p-value
Postoperative Ba (cm±SD) ^Δ	-1.1±1.5	-1.7±1.3	0.04
Postoperative C (cm±SD) ^Δ	-5.2±0.5	-5.8±1.7	<0.001
Postoperative Bp (cm±SD) ^Δ	-2.3±0.8	-2±1.5	0.689
Postoperative - preoperative Ba (cm±SD) ^Δ	-3.1±2.0	-4.3±1.5	0.011
Postoperative - preoperative C (cm±SD) ^Δ	-7.1±2.6	-8.4±2.8	0.007
Postoperative - preoperative Bp (cm±SD) ^Δ	-0.1±1.0	-0.6±1.7	0.125
Prolapse recurrence (No. [%]) ^Δ	1 [9.1]	0 [0]	0.117
Intraoperative/early complications (No. [%])	1 [9.1]	0 [0]	0.053
Procedure success (score±SD) ^Δ	9.4±0.8	9.3±1.1	0.935
Recommendation to a friend (No. [%]) ^Δ	10 [90.9]	16 [94.1]	<0.001
Postoperative PFDI-20 (score±SD) ^Δ	42.2±35.4	21.7±31.6	<0.001
• · POPDI-6	11.1±11.0	5.4±5.6	0.004
• · CRADI-8	9.4±13.0	5.7±12.2	0.010
• · UDI-6	21.6±27.0	11.3±21.3	<0.001

Conclusions

Our results showed that LLSH is not inferior to LSH. By attaching the mesh to both SUL, we should achieve a sufficient level I support of the uterus, thus providing good long-term results. Further studies will be necessary to compare the long-term efficacy of LLSH.

No-Touch Technique (NTT) Truclear polypectomy: A retrospective case series

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Background

Operative hysteroscopy in the outpatient setting has progressed in recent years with the introduction of hysteroscopic tissue retrieval systems, becoming a widely acceptable, convenient option for many women. Use of the Truclear 5C operative hysteroscope, launched and introduced in our unit in 2016, has enabled a 'see and treat' approach in the outpatient setting and has allowed many women to avoid a day case procedure.

The objectives of this study were to establish the outcomes of women in our unit undergoing outpatient Truclear polypectomy and to identify specific subgroups where use of a no-touch technique (NTT) approach to operative hysteroscopy were especially beneficial.

Methods

Women who underwent Truclear polypectomy by a single operator were identified retrospectively from clinic lists. Data was collected from the electronic patient records and from paper outpatient hysteroscopy proformas and analysed on a spreadsheet.

Results

378 women were included in the series and 363 (96%) procedures were completed successfully. Mean age was 56.3 years (range: 17-94) and 288 (76%) women were postmenopausal. Parity ranged from 0-6 with 68 (18%) being nulliparous and 276 (73%) having had a vaginal delivery. Seven patients were virgo intacta. 13 patients had a body mass index (BMI) of over 40 kg/m², the largest at 78 kg/m² had recently undergone a failed attempt at hysteroscopy under general anaesthetic (GA).

All patients were referred with either abnormal uterine bleeding or an abnormality on ultrasound scan, the commonest referral being for postmenopausal bleeding (227, 60%). The number of polyps excised ranged from 1-5, with the mean size of polyp being 19.4 (range: 4-70) mm. The mean time of procedure was 88.4 (range: 2-921) seconds and two patients underwent a two-stage procedure. The commonest reason for a failed procedure was a vasovagal response (50%) followed by pain (26%).

Whilst all the polyps removed had the appearance of being benign, 4% had foci of either pre-malignant or malignant change within the benign polyp.

Conclusions

Our series illustrates that Truclear polypectomy using a no-touch technique is safe, effective, acceptable to women and is suitable to use routinely in the outpatient setting. It is of particular benefit when treating patients with multiple medical co-morbidities where avoidance of a GA is preferable or where passing a vaginal speculum would be challenging. Age, parity, mode of delivery and BMI do not appear to be contra-indications to performing this procedure in the outpatient setting.

**ES30-0134 -
Laparoscopic surgery**

Laparoscopic myomectomy using a 5-step method

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Background

In the United States approximately 30.000 myomectomies are performed each year.

Laparoscopically performed myomectomies have proven to be superior to the transabdominal approach with respect to blood loss, infection rates and mortality rate especially in compromised patients. Therefore, we constructed a 5-step safe and easy method to perform this laparoscopic procedure.

Methods

The procedure consists of the following steps.

Step 1: stenting of the ureters. Step 2: a reversible clipping of the uterine artery on both sides. Step 3: laparoscopic injection of 20 ml of lidocaine 1%/adrenaline 1:200.000 mixed with 100 ml of saline into the uterus. Step 4: myomectomy by using an ultrasonic device. Step 5: excision of the fibroid and (if needed) extraction through a mini-laparotomy subsequently followed by closure of the defect in the uterus.

Results

We performed 20 procedures and compared the results with a historical comparable cohort of transabdominal myomectomies.

Outcomes were compared with respect to operating time, blood loss, infections, hospital stay postoperatively. Furthermore, a theoretical model will be discussed known from the literature showing an excess of postoperative deaths in the transabdominal group of 20-30 per 100.000 patients.

Conclusions

In our view this 5-step laparoscopic procedure seems to be a safe and easy method for level 4 laparoscopic surgeons with a relatively short learning curve. Showing the robust advantages with respect to blood loss, post-operative infections and duration of hospital stay, of a laparoscopic approach for this type of benign gynaecological pathology.

**ES30-0136 -
Fibroids, including morcellation OR tissue extraction**

Does uterine size alter short-term periprocedural complications in a comparative study of uterine artery embolisation (UAE) versus myomectomy treatment for uterine fibroids?

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Background

There are trends towards uterine-sparing treatments for fibroids, as an alternative to hysterectomy. However, there is a paucity of studies investigating the comparative effectiveness of these treatments. A 2014 Cochrane review demonstrated that major complications after these treatments were inconclusive. The recent multicentre FEMME RCT reported that 29% of women undergoing these treatments experience complications. The objective of this study was to investigate short-term periprocedural complications after these treatments when stratified for uterine size.

Methods

A retrospective cohort study was undertaken at Imperial College NHS Trust between April 2015 and April 2020. Patient cohorts were identified using procedural OPCS-4 codes. Those undergoing repeat interventions were excluded. Patient demographics, clinical history, uterine and fibroid characteristics were extracted from electronic records. Complications were graded using the validated Clavien-Dindo Index up to three months from the index procedure, with Clavien-Dindo Index ≥ 2 being indicative of significant morbidity. Descriptive statistics were calculated using SPSS25. Logistic regression was used to calculate odds-ratios and 95% confidence intervals.

Results

637 patients were identified (myomectomy n=444; UAE n=193). 44.2% of myomectomies were laparoscopic. Median treated uterine volume was 659.4cc. Median number of treated fibroids was 3 and the volume of the three most dominant fibroids per patient was 283 cc. Rates of Clavien-Dindo Index complications graded 1, 2, 3, 4 and 5 were 19.8%, 18.1%, 2.4%, 0.2% and 0% respectively for the entire cohort. The rate of significant periprocedural morbidity was 22.9% in the myomectomy and 15.5% in the UAE cohorts. When both treatment cohorts were stratified into quintiles of increasing uterine size, there were trends of increasing periprocedural morbidity with increasing uterine size. However, this was not the case in the laparoscopic myomectomy subgroup (n=196), where there was no clear trend.

Across all uterine volumes, myomectomy resulted in a 60% higher risk of significant short-term morbidity with respect to UAE (OR 1.609 [95%CI 1.028-2.519]). When stratified for uterine volume, there was a trend towards smaller treated uterine volumes favouring UAE in terms of short-term morbidity, but at larger volumes, this effect may be less pronounced and may favour myomectomy (uterine volume ≤ 1000 cc, UAE 1*, myomectomy OR 2.12 [95%CI 1.146-3.922]; uterine volume >1000 cc and ≤ 2000 cc, UAE 1*, myomectomy OR 1.586 [0.724-3.474]; uterine volume >2000 cc, UAE 1*, myomectomy OR 0.5 [0.099-2.527]).

Conclusions

To our knowledge, this is the first comparative study of myomectomy and UAE stratifying periprocedural morbidity outcomes according to uterine size. The results indicate altered short-term periprocedural risk profiles according to uterine size, where smaller uterine volumes may favour UAE, but this effect is less pronounced or may favour myomectomy at larger uterine volumes. There is a need for prospective studies that stratify outcomes according to uterine and fibroid characteristics, to allow better individualised treatment for women with fibroids.

Impact of preservation of the cervix on the postoperative quality of life and sexual function of patients after laparoscopic hysterectomy

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Background

The aim of the study was to investigate the role of the preservation of the cervix in hysterectomy for patients' postoperative quality of life (QoL) and sexual functioning.

Methods

The retrospective study included patients who underwent an elective total laparoscopic hysterectomy (TLH:01/2013 – 08/2017) and laparoscopic assisted supracervical hysterectomy (LASH:01/2013 – 08/2018) by a single highly trained surgeon due to benign pathologies at the Department of Gynaecology and Obstetrics of Kiel University Hospital. Both groups were similar in age, menopausal status and body-mass-index. Postoperative QoL and sexuality were assessed by a telephone interview using a standardized questionnaire. Questions addressing postoperative pain, QoL and functionality were based on the EQ-5D and EORTC QLQ-C30 questionnaire. The postoperative sexual functioning was examined based on the Female Sexual Function Index and King's health questionnaire.

Results

Of 144 (TLH:69, LASH:75) eligible patients 108 (TLH:56, LASH:52) patients completed the questionnaire. After TLH the mean lengths of hospital stay (TLH:4.1 days, LASH: 3.4 days) and median operation time (TLH: 120 min, LASH: 88 min) were significantly longer ($p < 0.01$). The mean postoperative pain score was similar after LASH (after 1 week: 3.56/10, after 4 weeks:1.11/10) and TLH (after 1 week: 3.75/10, after 4 weeks:1.19/10). Patients needed more time in median before starting to work after TLH (42 days) than after LASH (28 days). Both groups resumed hobbies after 42 days (median). Patients were limited in daily activities in median for 21 days (TLH) and 17 (LASH) days. 43.2% (LASH) and 35.7% (TLH) stated a limitation of sexual intercourse after surgery. The most frequent cause was pain (46%) after LASH and fear (46%) after TLH.

Conclusions

The questionnaire-based survey of postoperative QoL and sexual function with the focus on the difference between preservation of the cervix (LASH) and total laparoscopic hysterectomy showed no overall evidence that the preservation of the cervix determines a superior QoL and sexual functioning than total hysterectomy.

The impact of web navigation for patients affected by endometriosis during first outpatient visit

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Background

Given the high prevalence of anxiety among women suffering from endometriosis, an insight on the effects of online searches on these patients is essential to help the diagnostic process. Our study purpose is therefore to assess how internet information seeking affect patients' anxiety levels and health profile.

Methods

This study is a prospective observational analysis conducted on women referred to our clinic because of a suspicion of endometriosis between March 2019 and March 2020.

All women compiled a pre-visit questionnaire analyzing demographic as well as anxiety levels. Additionally, women were asked whether or not they had searched any information about endometriosis prior to our visit, and which sources were consulted.

Anxiety was measured with two validated questionnaires: the Generalized Anxiety Disorder (GAD) – 7 submitted before the visit and the Spielberg State Trait Anxiety Inventory (STAI) Y6, submitted before and after the visit. Moreover, patients were asked to rank endometriosis-related symptoms using the dedicated 11-item questionnaire of Endometriosis Health Profile – 5.

Results

200 consecutive patients filled out the questionnaires. Among them, 46 women reported the internet as the only source of information about endometriosis, 52 women received information from qualified sources such as general practitioner, 74 patients had consulted only healthcare professionals, whereas 28 declared they had only consulted scientific papers or medical journals.

Women who only sought information online were significantly younger than those who referred to other sources and their STAI-Y6 score after the evaluation was markedly reduced compared to their counterparts (34.1 ± 11.5 vs 42.1 ± 14.7 , $p = .001$). Additionally, the difference between the STAI-Y6 scores before and after our examination was significantly higher in these women (-18.3 ± 14.7 vs -10.3 ± 16.5 , $p = .003$). Moreover, regarding the specific questions of EHP questionnaire, our data showed that women who only used the Internet as their source for information were significantly more worried about the difficulties in obtaining pregnancy (2.7 ± 1.2 vs 1.9 ± 1.4 , $p < .001$).

Conclusions

Gynecologists evaluating for the first time women with supposed endometriosis should be aware that they are dealing with highly anxious patients, in particular for young women who probably have searched the Internet extensively for their doubts. Moreover, clinicians should bear in mind that infertility is the main concern of these women. Physicians conducting first outpatient evaluations should know that this is a highly stressful moment for these patients, one that could make the difference in terms of subsequent anxiety reduction. A thorough and tailored counselling, provided by cognizant doctors, is crucial to lessen women's distress.

Should expectant management of heterotopic pregnancy be considered?

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Background

Heterotopic pregnancy, though relatively rare, is potentially a life-threatening condition. Management is primarily dependent on gestational age at diagnosis, clinical presentation and the site of the ectopic pregnancy. In most cases interventional management is chosen, however, there are no widely accepted guidelines for the management of heterotopic pregnancies. The aim of the study is to compare expectant versus interventional management of heterotopic pregnancies.

Methods

This is a retrospective cohort study, conducted in a single tertiary medical center, including all women diagnosed with heterotopic pregnancy on ultrasound examination from January 2011 to December 2020. Data were collected from women's medical files including demographic, laboratory and ultrasound findings, management of heterotopic pregnancy, intrauterine pregnancy, follow up and delivery characteristics. Expectant and interventional management outcomes were compared. Data are presented as median and interquartile range.

Results

Forty-one women were diagnosed with heterotopic pregnancy during the study period, of them 73.2% (n=30) following In Vitro Fertilization (IVF) treatment. Abdominal pain was the most frequent presenting symptom (n=25.6%). Ectopic pregnancy was diagnosed in the fallopian tubes in 36 (87.8%) of the women. Management was expectant in 10 (24.4%) and interventional in 31 (75.6%) of the women. Expectant management was considered when patient was stable, and ectopic pregnancy did not continue to develop. Interventions included laparoscopic salpingectomy (n=26), laparoscopic cornual resection (n=2), laparotomic cornual resection (n=1) and gestational sac aspiration (n=2). Ongoing intra-uterine pregnancy was achieved in 6 (60%) and 77% (n=17) of the women in the expectant and interventional groups, respectively. All of the women managed expectantly reached term delivery, as opposed to 22 (71.0%) in the intervention management group (p=0.60). Multivariate analysis including: age, vaginal bleeding, Beta-hCG and management treatment, found Beta-hCG as the only independent parameter associated with ongoing pregnancy rate (p=0.04).

Conclusions

Both expectant and interventional management were found to be acceptable when heterotopic pregnancy is diagnosed with high ongoing intra-uterine pregnancy rate and term deliveries. Beta-hCG was found as the only independent parameter associated with the ongoing rate.

The VIPER (Visual Peritoneal Evaluation of Residual disease) Study: laparoscopic assessment of diaphragmatic disease spread in advanced ovarian cancer patients after neoadjuvant chemotherapy

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Background

To assess the sensitivity, specificity and accuracy of intra-operative laparoscopic visual evaluation of the diaphragmatic peritoneum compared to histopathological examination

Methods

Patients receiving diaphragmatic peritonectomy at time of IDS were retrospectively included. The population was grouped based on the surgeon's assessment of the diaphragmatic peritoneum during diagnostic laparoscopy. Group 1 included patients with "visually pathologic" diaphragmatic peritoneum, and Group 2 included patients with "visually dubious" diaphragmatic peritoneum.

Results

155 patients were included (92 in group 1 and 63 in group 2). The accuracy rate of visual examination was 67.1%, the negative predictive value was 19% while specificity was 100%. Intraoperative frozen section showed a 28.6% of false negative rate with an accuracy of 92.6% (Cohen kappa tests 0.700).

Visual inspection	n=155
Sensitivity	64.3%
Specificity	100%
Negative predictive value	19%
Accuracy	67.1%
False negative rate	35.7%

Conclusions

NACT strongly affects the ability of the surgeon to discern between peritoneal scars and truly pathologic peritoneum. The diaphragmatic laparoscopic visual examination showed a low overall accuracy (67.1%). We propose an algorithm that can guide the surgeon towards a more tailored approach to diaphragmatic peritonectomy during IDS.

Intracorporeal laparoscopic suturing training during Covid19 pandemic: Computers Vs the instructor

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Background

Our recent experience suggests that current and future generations of surgical trainees will have less opportunity for traditional face to face surgical and to an extension laparoscopic simulation training because of social distancing and limitations in travelling due to prolonged Covid19 restrictions. We designed a computer-based video instruction (CBVI) package to test the training potential (primary outcome) and effectiveness (secondary outcome) of CBVI when compared to the traditional instructor guided simulation training (IGST) for intracorporeal laparoscopic suturing.

Methods

Twenty third and fourth year medical students from Barts Medical School; who had no previous laparoscopic experience, volunteered to attend a 60min training session followed by a performance assessment at the end of their session and after four weeks. They were randomized in two groups of ten participants. The groups were matched for gender, right/left hand dominance, previous knowledge of a musical instrument and/or video games exposure and surgical career aspirations.

Results

Both groups showed similar performance outcomes for task completion, an intracorporeal laparoscopic knot, confirming our primary outcome that CBVI has comparable training potential. Nine out of ten participants of the CBVI group successfully completed the task, with only one dropout; while in the IGST group only seven out of ten participants successfully completed the task with three dropouts. ($P = 0.267$). Regarding the secondary outcomes (time and precision), both CBVI and IGST groups had similar performance without substantial difference for all three key steps of laparoscopic suturing (needle loading, needle driving, knot tying). On the 4-week skills retention assessment individuals of the CBVI group performed significantly better compared to the IGST for needle loading ($F = 9.758, P = .014$).

Conclusions

CBVI participants completed the task and showed a shorter time in needle loading than their IGST counterparts, therefore supporting the hypothesis that CBVI training for laparoscopic intracorporeal suturing seems to be reliable and effective. Moreover, when we take into account costs for travelling and hiring of training facilities as well as considerable faculty time commitments, which can also result to clinical time scheduling conflicts, then the video-only training is a more effective training approach for laparoscopic suturing and potentially other complex laparoscopic skills training; especially during the Covid19 restrictions.

Is it time to ditch the catheter after lap colpo? Our experience of early catheter removal following laparoscopic colposuspension for the treatment of stress incontinence

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Background

Indwelling transurethral catheterisation has traditionally been used following both open and laparoscopic colposuspension to facilitate bladder drainage until the return of normal voiding. The duration of catheterisation is highly variable amongst surgeons and may range from 1 to 5 days, with little evidence to favour the optimum duration. There is strong evidence that laparoscopic approach has equivocal efficacy to open colposuspension, with the added benefits of quicker recovery and shorter hospital stay. In our practice, we aim to facilitate enhanced recovery whilst maintaining high levels of patient satisfaction and recognised the management of the catheter post-operatively as a potential barrier to enhanced patient recovery.

Methods

Data was collected retrospectively from a case series (n=30) of laparoscopic colposuspension performed by one surgeon. Patients were grouped depending upon timing of catheter removal post procedure and results analysed to detect differences in outcomes between groups using descriptive statistics.

Results

Data collection ongoing at time of abstract submission. Initial results suggest no increase in incidence of urinary retention, voiding dysfunction or hospital readmission with early catheter removal.

Conclusions

We hope to demonstrate that early catheter removal is safe and acceptable following laparoscopic colposuspension, with no significant increase in complications and assists with shorter hospital stay without compromising the efficacy of the procedure. By developing a pathway for enhanced recovery including early catheter removal, we are able to offer women laparoscopic colposuspension as a day case procedure without compromising efficacy.

Risk reducing bilateral salpingo-oophorectomy for BRCA mutation carriers via transvaginal natural orifice transluminal endoscopic surgery approach

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Background

Bilateral salpingo-oophorectomy is considered the only proven risk reducing intervention for BRCA mutation carrier women. As the experience of transvaginal natural orifice transluminal endoscopic surgery (vNOTES) has been accumulating, it has been questioned whether it can serve an alternative approach for a laparoscopic salphingo-oophorectomy due to challenging accessibility and perhaps limited visualization of the abdominal cavity. The aim of the study is to report preliminary results using the vNOTES approach for risk reducing bilateral salphingo-oophorectomy for BRCA carrier women.

Methods

This is a retrospective cohort study, including BRCA mutation carrier women that underwent risk reducing bilateral salphingo-oophorectomy via vNOTES approach, in a single medical center, between February 2019 to January 2021. Data were collected from women's' medical files including demographics, medical and obstetrical history, operative characteristics and pathology results. All operations were performed by a single high skilled surgeon. Primary outcome was defined as successful bilateral salphingo-oophorectomy removal by vNOTES approach. Data are presented as median and interquartile range.

Results

Thirty seven women met inclusion criteria. Of them, 43% (n=16) and 57% (n=21) BRCA1 and BRCA2 mutations carriers, respectively, and 8% (n=3) carriers of both mutations. Median age at operation was 41(39-54) years old. Median parity was 2(2-3), with none of the women having past cesarean deliveries. All operations were completed using the vNOTES approach. Diaphragmatic screening was completed and was reported normal in all of the women. No complications were documented in any of the operations, including: bleeding, damage to adjacent organ and need to transfer to laparoscopy. Total operation median time was 60 (57-68) minutes. All women were released from hospitalization the following day after surgery and on follow up visit, a month post operation, reported being satisfied from the operation. Histo-pathological examination were clear in all of the women.

Conclusions

Risk reducing bilateral salphingo-oophorectomy by vNOTES provides a feasible new approach for the treatment of BRCA mutation carriers, with improved patient comfort and better cosmetic results.

A rare case of the new entity of Mullerian anomalies mimicking the non-communicating rudimentary cavity with Hemi-uterus: Accessory cavitated uterine mass

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Background

In young women, if primary dysmenorrhea is resistant to medical treatment, endometriosis, adenomyosis, and Mullerian abnormalities may be associated with this problem. Cyclic chronic pelvic pain may suggest non-communicating functional rudimentary uterine horn with unicornuate or bicornuate uterine malformations especially in adolescents. In these circumstances, MRI (magnetic resonance imaging) should be considered to confirm the diagnosis. Accessory cavitated uterine mass (ACUM) is relatively different from other female genital tract congenital anomalies. It may be misdiagnosed as a rudimentary uterine horn, adenomyosis, and degenerated leiomyoma.

Methods

We would like to present a rare case of accessory cavitated uterine mass which is a new form of Mullerian malformations mimicking non-communicating rudimentary cavity with Hemi-uterus.

Results

CASE REPORT

A 17-year-old virgin girl applied with the complaints of chronic pelvic pain and severe progressive dysmenorrhea despite using NSAIDs and contraceptives since her menarche. She was diagnosed with degenerated leiomyoma in another center and was administered NSAIDs and contraceptives for 2 years. However, after a medical treatment period without considerable relief, the patient was referred to our hospital. On transabdominal ultrasound, we revealed a heterogenous cystic mass of 24x 24 mm on the left side of the lateral uterine myometrial wall suggesting a non-communicating functional rudimentary horn. The uterus and endometrial cavity were determined as normal in MRI. It also showed a cavitated nodule of 25 mm with hemorrhagic components inside the mass on the left side of the uterus. MRI suggested that this lesion should be primarily evaluated as a rudimentary functional uterine horn. At laparoscopy, we observed a mass on the left wall of the uterus under the round ligament. We performed a vertical incision to the serosa of the mass, afterwards the mass was resected completely without entering the endometrial cavity. We saw the endometrial lining after cutting the nodule, and chocolate cyst content was spilled from inside of the mass. The histopathological examination presented the endometrial lining of the cavity surrounding the muscle. So we confirmed our case as ACUM that was a rare unclassified form of female genital tract congenital anomalies.

Conclusions

ACUM is a different entity from other Mullerian anomalies due to having a normal endometrial cavity. Most of the cases for ACUM were adolescents and they had severe dysmenorrhea and chronic pelvic pain that may be associated with the stretching of the cavity. These symptoms were early-onset and persistent despite using drugs, so suspicion about this problem is the main determinant for confirmation of the diagnosis. The definitive diagnosis of ACUM can be done after excision of the mass and confirmation with histopathological examination. ACUM may be misdiagnosed as U4a of ESHRE/ESGE classification, but it should be differentiated from that anomaly. Furthermore, it is important to define ACUM clearly in the U6 class of the ESHRE/ESGE classification system.

ART versus fertility enhancing surgery in women suffering from colorectal endometriosis: results of a pilot study to determine the role of surgery as first-line treatment

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Background

The aim of this study was to assess the effect of surgery as fertility enhancing procedure on fertility outcomes in women suffering from deep infiltrating endometriosis (DIE) with colorectal involvement who were having an active wish to conceive.

Methods

A single center retrospective observational cohort study was performed in the Endometriosis in Balance expertise center (Haaglanden Medical Center, The Hague, The Netherlands). Women suffering from DIE with colorectal involvement, under the age of 41 years at intake, who were having an active wish to conceive were included. The outcomes regarding fertility after primary (and solely) assisted reproductive technology (ART group) or surgery (irrespective of previous ART attempts) with the intention to enhance fertility (as primary or secondary indication) were collected.

Results

The overall pregnancy rate (PR) in the whole population was 31.0% (22/71). In the surgery group the PR was 27.3% (15/55) with a mean time of 10.5 months (SD±6.0) from surgery to pregnancy. In this group, 46.7% (7/15) got pregnant spontaneously and 53.3% (8/15) got pregnant due to fertility treatment. The mean duration of follow-up after surgery in the group of women who are still trying to get pregnant (n=39) was 12.9 months (SD±7.7). In the primary ART group, the PR was 43.8% (7/16) and the mean time to pregnancy from start fertility treatment was 6.6 months (SD±4.0). In this group all women (7/7) conceived due to fertility treatment. No significant difference in PR and time to pregnancy was found between the surgery and primary ART group (p=0.171 and p=0.131 respectively). A significant difference was found with regard to the way of conceiving (p=0.038). Complications after surgery occurred in 18.2% (10/55) of the women, of which 10.9% (n=6) needed reoperation.

Conclusions

Our study supports a potential benefit of surgery on fertility outcomes with regard to an increase in spontaneous conception after surgery. Further investigations are required to determine if surgery should be performed as first-line treatment.

Comparison of robot-assisted laparoscopy versus traditional laparoscopy for the treatment of colorectal endometriosis - impact on reproductive outcomes and quality of life

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Background

Surgical management of deep endometriosis with colorectal involvement in some cases is the only effective treatment option and in other cases is an option after a failure of medical treatment. Conventional laparoscopy is currently considered a standard approach for surgical treatment. Robot-assisted laparoscopy emerged as an alternative to conventional laparoscopy but still with low evidence. There are still few studies comparing robotic surgery with conventional laparoscopy for the treatment of deep endometriosis (DE). Comparison of robot-assisted laparoscopy versus traditional laparoscopy for the treatment of colorectal endometriosis. Impact on quality of life, reproductive outcomes.

The objective of this study was to compare the robotic-assisted and traditional laparoscopy for the treatment of bowel endometriosis in a retro-prospective study and investigate the intra- and postoperative complications, the impact of the surgery on patients' quality of life, and reproductive outcomes.

Methods

From January 2016 to March 2021, we conducted a retro-prospective study with 156 patients included who underwent surgical treatment for colorectal endometriosis (rectal shaving, discoid excision, or segmental resection). The interventions were either performed by robotic or conventional laparoscopy. Patients' characteristics, operative, and postoperative data were compared between the robotic and the conventional laparoscopic group. The inclusion criteria were patients over 18 years old, after the failure of medical treatment or with infertility; with a preoperative diagnosis of DE with colorectal involvement confirmed by transvaginal ultrasonography, magnetic resonance imaging (MRI), and colonoscopy

Results

156 patients were included, 110 in the conventional laparoscopy group and 46 in the robotic group. Patients' characteristics and operative findings were similar between the two groups. The mean operative time for robotic vs. laparoscopic surgery for endometriosis was 141.7 minutes vs. 128.7 minutes. The mean intraoperative blood loss (RA – 160 ml vs. Ls - 123ml), the incidence of intraoperative, postoperative complication rates, rates of conversion to laparotomy, and voiding dysfunction were similar in the two groups. The mean hospital stay in both groups was 5-7 days. There is a slight difference in blood loss, no differences in intraoperative or postoperative complications rate, or rates of conversion to laparotomy. Both groups reported significant improvement in condition-specific quality of life outcomes at 2, 6, 12 months, and more than 24 months.

Conclusions

Our results support the idea that robotic surgery is an adequate alternative to conventional laparoscopy for the treatment of deep infiltrating endometriosis. There were no differences in perioperative outcomes between robotic and conventional laparoscopy.

Removal of intra-uterine device in the presence of pregnancy - A novel indication for office hysteroscopy

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Background

Pregnancies with an Intra-Uterine Device (IUD) in place are associated with high obstetrical complication. Women who desire to precede with the intra-uterine pregnancy are often recommended to remove the IUD. Although removal can be safely done in an office setting, it might be challenging in patients whose IUD does not have visible strings. Office hysteroscopic removal has the benefits of office procedure and enables targeted intervention that may reduce pain and the risks for gestational sac injury. The aim of the study is to compare obstetrical outcomes of office hysteroscopy removal of IUD in the presence of pregnancy to blinded removal.

Methods

This is a retrospective cohort study including all women diagnosed with intra uterine pregnancy with IUD during October 2011 to April 2021, that wanted to continue pregnancy. Data were collected from women's' medical files including demographic, ultrasound findings, management of IUD, pregnancy follow up and delivery characteristics. Office hysteroscopic and blinded management outcomes were compared. Primary outcome was defined as successful IUD removal with normal intra-uterine pregnancy examination following intervention. Data are presented as median and interquartile range.

Results

Fifty nine women with pregnancy in the presence of IUD wished to remove the IUD and continue pregnancy. Of them, 20% (n=12) and 80% (n=47) underwent office hysteroscopy and blinded management for IUD removal, respectively. Complete follow up was achieved in 100% of the office hysteroscopy and 87% of the blinded management groups. Clinical characteristics were comparable between the groups. In all of the women in the office hysteroscopy group IUD strings were not observed in the vagina, however, all IUDs were removed successfully. This finding was statistically significant compared to blinded management group success rate, that reached only 68% (n=32/47), (p=0.02). No statistical differences were found in abortion, vaginal bleeding during pregnancy, hematoma and preterm birth rates between the groups. Term pregnancy rate was also found comparable, with 42.66% (n=5/12) vs. 44.68% (n=21/43), for the office hysteroscopy and blinded management groups, respectively.

Conclusions

Office hysteroscopy has higher removal success rate and comparable pregnancy outcomes when compared to blinded management.

Gynaecological laparoscopic surgery under regional anesthesia: a prospective study based on patient, surgeon and anesthesiologist perspectives

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Background

In the minimally invasive era, laparoscopic gynaecological surgery is currently performed under general anesthesia, which although considered a safe technique, is accountable for different adverse effects and delayed recovery. Regional anesthesia (RA) from an anesthesiology perspective could be considered the “minimally invasive technique”. Aim of this study was to assess the feasibility and the perioperative outcomes of laparoscopic gynaecological surgery in regional anesthesia from the point of view of the surgeon, anesthesiologist and patient.

Methods

This prospective cohort study was performed at the University of Naples Federico II. 90 women (class I-II ASA, BMI <30) who were planned to undergo gynaecologic laparoscopy surgery for benign pathology. All women were enrolled from March 2020 to April 2021. All patients underwent surgical laparoscopy under regional (Group A) or general anesthesia (Group B). Postoperative surgical and anesthesiological variables were recorded. Intraoperatively pain score on a Likert scale during all the stages of laparoscopy in RA was assessed.

Results

Duration of surgery were comparable between the two groups and no conversion to general anesthesia was required. Postoperative pain was significantly lower in Group A up to 6 h ($p < 0.005$) with no statistically significant differences between the two groups at 24 h. The procedure was very acceptable from the patients. In all steps a maximum of 2 points on the Likert scale was recorded. A faster resumption of bowel motility ($p < 0.001$) and patient's mobilization (< 0.001) was observed in the group A as well as a lower incidence of post-operative nausea and vomit. Early discharge and greater patient's satisfaction were recorded in patients who underwent RA.

Conclusions

RA showed to decrease the impact of surgical stress and to guarantee a quicker recovery without compromising surgical results. As well as different surgical approaches can be selected to treat different pathologies, regional anesthesia technique could be a viable option for patients.

**ES30-0166 -
Fibroids, including morcellation OR tissue extraction**

A seven year evaluation of short-term complications after the use of morcellation in laparoscopic myomectomy: a retrospective observational study of 201 cases

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Background

There has been a partial ban of power morcellation in the USA and many parts of the world since 2014, following a high-profile case whereby an occult sarcoma was morcellated leading to dissemination of undiagnosed malignancy and the unfortunate death of the patient. Nevertheless, the risk of sarcoma in young women under the age of 40 remains low (1 in 1000), especially if there is no significant radiological suspicion. As recently reported by a Cochrane review, the evidence for this risk is conflicting in literature and the FDA quote of 1 in 350 is likely an overstatement. Morcellation is an integral component of minimal invasive gynaecology and women still benefit from its uses.

Methods

We performed a retrospective observational analysis of all the laparoscopic myomectomies performed by a single centre from 2014 to May 2021. 201 cases were identified and their records were reviewed for any short-term complications of morcellation, spanning a period of up to 3 months post-operatively.

Results

On our records, there have been no fatalities or significant visceral injuries directly associated with the use of morcellation in laparoscopic myomectomy. Moreover, intraoperative morcellation of any fibroid size did not increase procedural blood loss or the need for blood transfusion.

As far as the laparoscopic port sites used for morcellation are concerned, these were 15mm incisions in all cases, as since 2014, the Trust only uses the same morcellation brand. There were no incidents of port-site herniation and out of 201 cases, only 7% reported a wound site infection that was managed with a short course of antibiotics. We found no evidence of parasitic leiomyomatosis in women that underwent sonographic assessment, up to 12 months post-operatively.

Conclusions

We believe that our results simply reflect expert laparoscopic training prior to surgery, safe laparoscopic techniques with copious intra-peritoneal lavage (as per Parker et al) and fastidious collection of any fibroid piece that was expelled by the morcellation blades.

Our team fully support in-bag morcellation as an additional measure to reduce the risk of fibroid peritoneal seeding.

All morcellation port-sites were meticulously closed with endoclose Vicryl 1 suture.

Overall we understand that a large majority of ethnic minority women (BAME) who suffer silently with fibroid related symptoms, will still need minimal access procedures, and we recommend that morcellation is an important procedural step, provided it is carried out by a trained and experienced team.

Laparoscopic high uterosacral ligament suspension versus laparoscopic sacral colpopexy for pelvic organ prolapse: a case-control study

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Background

The primary objective of this multicenter case-control retrospective study was to compare the recurrence rate while the secondary objectives were to compare feasibility, safety and efficacy of laparoscopic sacral colpopexy and laparoscopic high uterosacral ligament suspension in surgical treatment of pelvic organ prolapse.

Methods

In the period from 2015 to 2018, 600 women were submitted to laparoscopic sacral colpopexy while 150 to laparoscopic high uterosacral ligament suspension in two Italian urogynaecology referral centers. We enrolled patients with apical prolapse stage ≥ 2 alone or multicompartement descensus. To reduce allocation bias, we performed a propensity matched analysis. Patients undergoing laparoscopic high uterosacral ligament suspension surgery were matched 1:2 to patients undergoing laparoscopic sacral colpopexy. The cumulative proportion of relapse-free patients in time was analyzed by the Kaplan-Meier method.

Results

309 patients were enrolled (103 laparoscopic high uterosacral ligament suspension; 206 laparoscopic sacral colpopexy). Median operating time was significantly shorter in the laparoscopic high uterosacral ligament suspension group ($p=0.0001$). No statistically significant difference was found in terms of estimated blood loss, admission time, intraoperative and major early post-operative complications, post-operative pelvic pain, dyspareunia and de novo stress urinary incontinence. Surgical approach was the only independent risk factor for prolapse recurrence (RR 6.013 [2.965 – 12.193], $p=0.0001$). The objective cure rate was higher in the laparoscopic sacral colpopexy group (93.7% vs 68%, 193/206 vs 70/103, $p=0.0001$) with a highly reduced risk of recurrence (RR 5.430 [1.660 – 17.765]). Median follow up was 22 months.

Conclusions

Both techniques are safe, feasible and effective. Laparoscopic sacral colpopexy remains the best choice in treatment of multicompartement and advanced pelvic organ prolapse while laparoscopic high uterosacral ligament suspension could be appropriate for moderate and isolated apical prolapse when laparoscopic sacral colpopexy is not suitable for the patient or to prevent prolapse in patients at high risk at the time of the hysterectomy.

Reproductive outcomes after laparoscopic myomectomy with barbed suture - a retrospective analysis of two centers

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Background

Myomectomy is one of the most common operations in gynaecological practice. Laparoscopic access for this operation is difficult for many surgeons as it requires endoscopic suturing skills. To simplify this task, barbed sutures were invented, however, until now, their use in patients who desires pregnancy is a subject of debate due to the lack of clear data on the effect of these threads on the formation of a competent uterine scar and reproductive outcomes.

Methods

From 2015 to 2020, 195 patients were operated on in the endoscopic department of Moscow Regional Scientific Research Institute of Obstetrics and Gynaecology and Kuban State Medical University. 87 of those 195 patients planned pregnancy after surgery (44.6%) and they were analyzed. When calling the patients, 12 of those who planned to become pregnant refused to provide information. Thus, 75 patients were analyzed. During myorrhaphy, a barbed suture was used in two rows: musculo-muscular, serous-muscular. Abstinence from pregnancy was recommended for 6 months.

Results

In all women who were pregnant, it was the only postoperative pregnancy and all pregnancies were singleton.

After surgery, pregnancy occurred in 31 patients (41.3%) and 22 ended in childbirth, and 6 pregnancies ended in early miscarriage with an average duration of 5 weeks. The take-home baby rate was (29.3%). The average gestational age at the time of delivery was 39 weeks.

There were 3 (13.6%) spontaneous births, and the remaining births (19 – 86.4%) ended in cesarean section. The indication for cesarean section was a scar on the uterus after myomectomy and all operations were performed as planned. No complications such as uterine scar failure or uterine scar rupture have been reported.

Currently, there are 3 pregnant women with different gestation periods: from 25 to 32 weeks of pregnancy. One of them had a pregnancy with the threat of termination of pregnancy at 17 weeks, the pregnancy was prolonged.

Conclusions

There are little data in the world literature on the reproductive outcomes of patients after suturing a node defect with a barbed suture, and they mainly describe blood loss, surgery time, and postoperative complications. This work is aimed at popularizing the use of self-fixing thread in patients, including evaluating the reproductive outcomes of this method of myorrhaphy. Based on our results, we can assume that myomectomy using a barbed suture thread for myorrhaphy is safe for patients planning pregnancy.

A comparative analysis of diagnosis and measurement of uterine 'niche' performed by non-specialist and specialist sonographers

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Background

Previous studies have shown an association with the diagnosis of uterine scar defect – referred as 'niche', and symptoms such as postmenstrual spotting, chronic pelvic pain, dysmenorrhoea, and subfertility. The prevalence of niche in non-pregnant women varies, however, most studies report a detection rate of ~ 50% in women after cesarean delivery. The aim of the study is to compare the diagnosis and evaluation of a niche performed by ultrasonographic non-specialist vs. specialist in women after cesarean delivery using two dimensional (2D) transvaginal ultrasound.

Methods

This is a cohort study including women after cesarean delivery that were operated during January 2011 to December 2018, in a single tertiary medical center. All women completed a 2D transvaginal sonographic evaluation of the uterine scar and a questionnaire regarding symptoms associated to niche presence. Examinations were performed by one of two non-specialist ultrasonographers, who completed a short training aimed specifically for the evaluation of uterine scar integrity and characteristics. Pictures and video of the examinations were saved and evaluated by an ultrasonographic specialist using ImageJ processing program with endometrium width as reference for measurements. The last was blinded to the non-specialist examination results. Data are presented as median and interquartile range.

Results

Fifty-three women were included in the study. Median age was 34(31-39) years. Mean cesarean delivery rate was 1(1-3) with a mean time from surgery of 11(10-11) months. While comparing non-specialist to specialist measurements of the niche area, length [6.50(5.60-8.12) vs. 9.13(6.92-10.10) mm, $p=0.003$] and adjacent myometrial thickness (AMT) [10.85(8.62-12.90) vs. 12.48(9.95-16.08) mm, $p=0.01$] were both found statistically higher in the specialist measurements. Nevertheless, no differences were found in the residual myometrial thickness (RMT) [5.05(3.92-6.57) vs. 4.00(2.63-7.81) mm, $p=0.29$] nor in the depth [3.50(2.60-5.90) vs. 3.58(2.34-4.93) mm, $p=0.48$] measurements. Symptoms were not found to be associated with any of the niche measurements for both measurers. Estimation of significant niche, defined by low RMT or impression of profound uterine defect requiring additional evaluation, was also comparable between measurers [34%($n=18$) vs. 19%($n=10$), $p=0.07$].

Conclusions

Evaluation of a niche in women after cesarean delivery using two dimensional (2D) transvaginal ultrasound performed by ultrasonographic non-specialist is comparable to specialist.

Quality of life improvement after laparoscopic uterosacral ligament suspension in pelvic organ prolapse treatment

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Background

Nowadays, there is a dearth of data regarding quality of life and sexual functions in women who underwent I-husls for pop. Since most of the published studies investigate anatomical outcomes, the aim of our study is to evaluate the subjective as well as objective outcome in women undergoing this surgical procedure with the support of validated questionnaires.

Methods

A total of 60 patients who underwent I-husls in a tertiary institution between 2016 and 2018 were included. All patients filled 3-level version of euroqol (eq-5d), female sexual distress scale (fsds) and international consultation on incontinence questionnaire-urinary incontinence short form (icq-sf) preoperatively. General health-related quality of life was assessed with euroqol. Pop q stage ii-iv at follow-up visit was considered as anatomical surgical failure. Outpatient follow-up after surgery was carried out at 1,3,12 months and then yearly. Urodynamic testing was repeated at 12 months. Overall postoperative patient satisfaction was evaluated with patient global impression of improvement (pgi-i) questionnaire at 3 and 12 months. The eq-5d, icq-sf and fsds were administered at 12 and 24-months follow-up.

Results

All patients had a high grade of apical prolapse before surgery. No intraoperative and major postoperative complications were registered. The median follow-up was 24 months (24-48). Pgi-i score was 1–2 in 55 (91.6%) women, and 96.6% showed a score ≤ 3 , demonstrating a high degree of overall satisfaction. A significant improvement of eq-5d index and vas scores from the baseline was observed: from 0.72 (0.67-1) to 0.91 (0.79-1) and from 50 (30-90) to 70 (50-100) respectively ($p=0.000$). All patients presented a statistically significant amelioration of fsds and icq-sf scores. We observed a significant reduction in the overall number of patients with postoperative sui (63.3 % vs 26.7 %, $p = 0.000$), including de novo (6.7%) and persistent (20%) cases, confirmed by a significant decrease of icq-sf values after the treatment. Anatomical cure rate after 24 months was 83.7 %. However, considering only the apex we observed that the anatomical success rate increased up to 93.3% (56/60) since 90% (9/10) of prolapse recurrence involved the anterior compartment.

Conclusions

I-husls suggest safety, feasibility and efficacy in the treatment of advanced pop offering high rates of patient-reported cure and representing a valid alternative in those cases in which lscp is not suitable. Further prospective and larger studies are mandatory to confirm our data.

Changing rates of surgical management of ectopic pregnancy in a Scottish district general hospital during the Covid-19 pandemic

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Background

During the first wave of Covid-19 in our gynaecology department, it was felt anecdotally that a greater number of ectopic pregnancies were requiring surgical management than in pre-covid times. Investigations were carried out to try and ascertain whether altered behaviour on the part of the women or their managing team could explain the increased numbers, or whether it was indicative of an increased pregnancy rate.

Methods

Electronic theatre records were searched to compile a list of ectopic pregnancy cases which required surgical management between 01/03/2020 and 31/10/2020. These cases were reviewed individually for date of symptom onset and date of first face-to-face (FTF) review at the gynaecology department, including the Early Pregnancy Assessment service (EPAS). For comparison, the same search was carried out for those dates in 2019 and the same information obtained.

The online patient record platform 'BadgerNet' was used to determine the number of pregnancies 'booked' during these time periods. This figure was used as a representation of the conception rate, given that the number of first trimester losses being managed conservatively at home by women who did not seek medical attention is not known.

Results

Between 01/03/2020 and 31/10/2020, 34 women required laparoscopic surgery to treat ectopic pregnancy. This represents a 36% increase in cases from the same dates in 2019 (n=25). They were symptomatic for on average 2.7 days (versus 3.2 days in 2019) before their first contact with medical services (either via telephone or FTF), were seen FTF after 4.3 days (3.9 days in 2019) and had their surgery an average of 8.6 days after symptom onset (8.6 days on average also seen in 2019).

4404 pregnancies were booked during this time period in 2020 which represents an increase of 18% from 2019 (n=3713).

Conclusions

The increased number of women requiring surgical management of ectopic pregnancy during the first wave in our unit cannot likely be explained by changes in behaviour such as delay in seeking medical attention, delayed availability of face-to-face review, or longer duration from symptom onset to date of surgery. It is likely to be partially explained by an increase in the conception rate.

Office hysteroscopic findings in postmenopausal women – a three-year experience from a tertiary care center

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Background

This study aimed to describe the population of postmenopausal women undergoing office hysteroscopy and to characterize the findings related to intracavitary pathology and respective risk factors.

Methods

In this retrospective study, data from postmenopausal patients undergoing office hysteroscopy in a tertiary hospital from 2018 to 2020 was analyzed. Categorical variables are presented as frequencies and percentages and were compared using the chi-square test. Continuous variables are expressed as means and standard deviations and were compared using Student's t-test.

Results

During the study period, 1418 office hysteroscopies were performed, 695 of them in postmenopausal women (50.8%). Among these patients, the mean age was 63.95 ± 8.9 years, 47.7% had hypertension and 15.5% were diabetic. Regarding parity, 8.3% of patients were nulliparous, 88.9% had at least one vaginal delivery and 21.1% had at least one cesarean section. The main indications for hysteroscopy were endometrial thickening (45.9%) and sonographic suspicion of polyp (38%). Mean value for endometrial thickness was 10.2 ± 6.2 mm and postmenopausal bleeding was reported by 38.4% of patients. Procedure tolerance, as subjectively assessed by the operator, was classified as intolerable to extremely intolerable in 18% of women and acceptable to excellent in 81.9%. Vasovagal syncope occurred in 2.3% of women and the procedure was interrupted due to intolerance in 2.7%. The most frequent intraoperative findings were endometrial polyps (53.8%), synechiae (9.2%) and endometrial hypertrophy (7.2%). Removal of lesions or endometrial sampling was performed in 48.6% of hysteroscopies. In 30.5% of cases a second surgical procedure was necessary. Histopathological examination of the lesions identified by office hysteroscopy revealed endometrial hyperplasia without atypia in 7.2%, atypical hyperplasia in 1.6% and malignancy in 2.6% of cases. Endometrial polyps were found more frequently in hypertensive women (48.2% vs 32.5% in normotensive women, $p < 0.0005$), but hypertension showed no relation to malignancy. Malignancy was detected in 6.2% of women with postmenopausal bleeding and 0.8% of asymptomatic patients ($p < 0.0005$). In the presence of hyperplasia or malignancy, endometrial thickness was greater in women with postmenopausal bleeding (13 ± 8 mm vs. 9.8 ± 5.9 mm in the absence of hyperplasia or malignancy, $p = 0.002$) however, there were no differences in endometrial thickness in the absence of bleeding. No association was found between endometrial pathology and parity or diabetes.

Conclusions

Office hysteroscopy is a well-tolerated and safe procedure. In this study, endometrial polyp was the most frequent hysteroscopic finding in postmenopausal women. Despite study limitations, mainly due to its retrospective nature, postmenopausal bleeding appears to be the main risk factor for malignancy, consistent with present scientific evidence.

No association between preoperative pain symptoms and surgical phenotype of endometriosis

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Background

Contradictory findings have been reported on the link between the presence or intensity of preoperative pain and the surgical phenotype of endometriosis, both for rASRM-staging system as for Enzian-classification which has recently been updated to the #Enzian-classification. Our study aimed to examine the association between preoperative pain and the surgical phenotype.

Methods

A prospective survey on patient-reported outcomes in women undergoing laparoscopic surgery for endometriosis in a tertiary referral centre. The intensity of five pain symptoms (i.e. dysmenorrhea, abdominal pain between periods, dyspareunia, dyschezia and dysuria) was surveyed with an 11-point numerical rating scale from 0 'no pain' to 10 'worst imaginable pain'. Overall pain was the sum of these five scores. The surgical phenotype was classified according to rASRM and #Enzian, based upon a written report and standardized photographic documentation. To prevent and correct for multiple testing we decided a-priori to test 15 hypotheses instead of testing all potential combinations of pain scores and subsets of rASRM and #Enzian. The selection of these 15 hypotheses was based on literature review and expert opinion. These 15 hypotheses were studied with Pearson correlations coefficients ($p=0.003$; $0.05/15$ as Bonferroni correction).

Results

A total 227/277 women took part (participation rate=82%), of whom 202 women (mean age 31 ± 5 years old) were eligible as they had surgically confirmed endometriosis. The mean intensity of the preoperative pain (\pm SD) was: 5.4/10 (± 3.9) for dysmenorrhea, 4.2/10 (± 3.4) for abdominal pain between periods, 3.9/10 (± 3.2) for dyspareunia, 4.1/10 (± 3.6) for dyschezia, 1.8/10 (± 2.9) for dysuria and 19.5/50 (± 12.0) for overall pain. The majority of included women had rASRM stage IV (severe) endometriosis (121/202 (59.9%)), as opposed to stage I (minimal, 15/202 (7.4%)), stage II (mild, 33/202 (16.3%)) and stage III (moderate, 33/202 (16.3%)). With #Enzian-classification, deep lesions were noted in compartment A, B and C in respectively 135/202 (66.8%), 75/202 (35.1%) and 96/202 (47.5%) women. Peritoneal lesions were found in 195/202 women (96.5%) and 81/202 women (40.1%) had endometriomas.

None of the 15 hypothesised associations between preoperative pain and surgical phenotype was confirmed ($p\geq 0.076$). For example, the hypothesis on the link between dyschezia and rectovaginal endometriosis (based on two previous studies), was rejected as the association was not significant ($p=0.809$). Another hypothesis (based on three available studies) on the link between dysmenorrhea and advanced endometriosis (rASRM stage III or IV) was also rejected ($p=0.759$).

Conclusions

The surgical phenotype as per rASRM/#Enzian does not explain patient-reported preoperative pain in our dataset. The high prevalence of rASRM stage IV and deep endometriosis may have influenced our findings, although the SD of reported pain symptoms suggests sufficient variability. Surgical phenotyping remains important for organisation of patient care and future research. We plan further analyses to assess the association between pain improvement after surgery and surgical phenotype.

Early diagnosis of endometriosis in young girls: the utero-sacral-ligament thickening is often the only ultrasound finding

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Background

The delay in diagnosis of endometriosis is well known. Most of the patients who have endometriosis referred dysmenorrhea in adolescence or in young age. In young girls dysmenorrhea often is highly underestimated, considered as a normal and transient symptom; often clinical and pelvic examination was negative and early diagnosis is missed. The aim of this study is to evaluate in young patients (≤ 25 yrs) with significant dysmenorrhea, the presence of transvaginal ultrasonographic findings of different forms of endometriosis (ovarian, deep infiltrating endometriosis (DIE), adenomyosis).

Methods

318 girls (12-25 yrs) referred to our Gynaecological Ultrasound Unit from January 2015 to December 2020 with dysmenorrhea with a VAS score ≥ 5 were included in this study. 2D, 3D and power Doppler ultrasound (US) pelvic examination (trans-vaginal or trans-rectal in Virgo girls) was performed in all included girls. Medical history and symptoms were collected for each patient as usual before the scan. All possible locations of endometriosis were evaluated and recorded using a US dedicated mapping sheet

Results

At least one ultrasound feature of endometriosis was identified in 27.9% (93/318) of cases. 142 girls 44.7% showed a complete normal TVS examination. Of the girls who had endometriosis at US ovarian endometrioma was found in 33/93 patients (35.4%) of these 11 (11.8%) showed an isolated endometrioma. Adenomyosis was detected in 28.8% (24/93), while rectal deep infiltrating endometriosis (DIE) in 11.9% (11). Adenomyosis was observed mostly in mild grade and isolated adenomyosis was seen in only 11/93 (11.8%). USL fibrotic thickening was seen in 39.7% (37/93) of cases; in 26 girls (27.9%) the USL lesion was completely isolated

Conclusions

In young girls with dysmenorrhea the ultrasound detection rate of pelvic endometriosis is 28%. USL fibrotic thickening is often the only findings. An accurate pelvic ultrasound scan is able to perform an early diagnosis identifying small endometriotic lesions in the USL or mild adenomyosis features. Expert sonographer should identify the USL involvement for the diagnosis of endometriosis in young girls in order to reduce the significant delay between the onset of symptoms and the diagnosis

Marketed versus true dimensions of laparoscopic trocars – a descriptive study

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Background

Laparoscopic disposable trocars available in Europe are marketed in several distinct size categories. In practice, trocars in the same size category exhibit different functionality (ability to introduce instruments/needles and retrieve specimens) and warrant different incision sizes. The aim of our study is to establish true dimensions of single-use laparoscopic trocars as compared to marketed dimensions, calculate the corresponding incision sizes, and outline accessibility of information regarding true dimensions.

Methods

True inner and outer cannula dimensions were collected for disposable bladeless, balloon, and optical laparoscopic trocars offered by vendors in Europe. Company websites, catalogues, product packing, and sales representatives were consulted for information regarding dimensions.

Results

True dimensions for 90 different trocars were obtained from 9 vendors covering 8 marketed size categories (3, 3.5, 5, 8, 10, 11, 12, and 15 mm trocars). Mean difference across all trocars between marketed size and true inner diameter was 0.97 mm (standard deviation [SD] 0.45 mm, range 0-2.4 mm), with the widest range in the 5 mm size category. For 5 mm ports, mean true inner diameter was 6.1 mm (SD 0.52, range 5.5-7.4) and true outer diameter 8.4 mm (SD 0.67, range 7.7-10.7). For 12 mm ports, mean true inner diameter was 13.0 mm (SD 0.25, range 12-13.3) and outer diameter 15.3 mm (SD 0.53, range 14.4-16.8). Corresponding incision sizes were calculated as half the circumference ($\pi \times \text{outer diameter} / 2$). Five mm ports necessitate a mean incision size of 13.2 mm (SD 1.1, range 12.1-16.8) and 12 mm ports a mean incision of 28.5 mm (SD 0.65, range 27.5-29.8). One out of 9 vendors stated actual inner diameters on their company website and/or catalogue, no vendors stated actual outer diameters.

Conclusions

Trocars in the same size category give a false sense of standardization with considerable differences in both inner and outer diameters, corresponding to differences in functionality and incision sizes. Accessibility to information on true dimensions is limited. Future directions include assessment of the incisional site hernia literature for consideration of true trocar dimensions and surgeons' perceptions of trocar dimensions.

Clinical and urodynamic effects of laparoscopic sacral colpopexy

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Background

The first aim of this study was to evaluate the functional outcomes of laparoscopic sacrocolpopexy (l-scp), by looking at several possible indicators: pre- and post-operative symptoms; pre- and post-operative urodynamic findings; patients' reported outcomes after surgery. The secondary objective was to evaluate the anatomical effects of the surgery and the impact on quality of life.

Methods

This is a single-centre observational prospective study conducted on women who underwent l-scp. Inclusion criteria: age >18 years and symptomatic stage iii or iv pop. pre-operative work-up: urogynaecological history and pelvic examination, using pop-q classification; supine stress test with reduced prolapse; conventional urodynamic study with and without reduced prolapse; questionnaires: urinary distress inventory (udi-6) and overactive bladder (oab) screener for symptoms, and the prolapse-quality of life questionnaire (p-qol) for symptoms and qol. All patients underwent l-scp with an ultra-lightweight polypropylene mesh associated with supracervical hysterectomy and, in post-menopausal women only, bilateral salpingoovariectomy. Patients were followed up at 3, 6 and 12 months and thereafter annually using the same protocol. Urodynamics, which was performed at one-year. Patient satisfaction was assessed at each visit using the pgi-i. Patients with a minimum follow-up of 12 months were included in this report.

Results

This study demonstrates that l-scp guarantees optimal results in terms of both symptoms and anatomical correction. We observed a statistically significant correction of overactive bladder, voiding and pop related symptoms. Dyspareunia decreased significantly and there was no impact on the functioning of the posterior compartment. Twenty-five patients presented pre-op with stress urinary incontinence (sui). Post-operatively, 18 of these became continent and 7 had persistent sui. Fourteen patients had de novo sui. This new onset of sui may be attributed either to undiagnosed 'latent sui', or to excessive tension at the anterior vaginal wall during surgery, which may result in an imperfect closure of the bladder neck. All but one patient underwent pelvic floor rehabilitation, with good results. The remaining patient underwent tot procedure with resolution of sui. Five patients had de novo oab symptoms: all 5 underwent pharmacological therapy for 2 months with a resolution of symptoms. We found no case of de novo constipation. Urodynamics showed a significant reduction in pdet@qmax and an increase in qmax due to anatomical correction. We obtained a significant correction of pop at the level of the anterior vaginal wall, and also in the apical and posterior compartments. In addition, we did not have any intra-operative complications or cases of vaginal extrusion of the mesh.

Conclusions

This study demonstrates that l-scp improves patient's functional and anatomical outcome.

4K versus 3D laparoscopic colporrhaphy by surgeons in training: a prospective randomized trial

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Background

The advantages of 4K technology include more detailed, color-correct images and greater depth perception. The disadvantages of the laparoscopic approach compared to the laparotomic one, consist in a two-dimensional operative field with depth loss, complicated by the fulcrum effect of the laparoscopic instrumentation with inversion of hand movements. Three-dimensional vision, through depth perception, could overcome some of these limitations, offering the surgeon a total immersion in the operative field, increasing precision and safety and reducing both blood loss and operative time. Concerning total laparoscopic hysterectomy, several retrospective case control studies have shown a clear advantage of 3D hysterectomy in terms of shorter operative times and reduction of blood loss with comparable occurrence of vaginal cuff dehiscence. Spille J et al. conducted a randomized controlled trial on a pelvic-trainer, using objectively graded surgical steps. Two hundred seventy-seven participants divided into students, residents, and specialists have been enrolled for the study. Results shown how 3D-system permits a greater improvement in working speed, superior optical visualization, and better endoscopic handling in all groups, regardless of the surgical experience of each group. Due to the inconclusive results present in literature, we design a prospective randomized study to verify the operative time of suture of the vaginal cuff after total laparoscopic hysterectomy (TLH). The aim of the present study is to evaluate if the time of vaginal cuff closure after total laparoscopic hysterectomy performed by surgeons-in training (defined as Obstetrics and Gynaecology residents) could be reduced using 3D Laparoscopy instead of 4K laparoscopy. The study has been approved by ethics committee of our institution and registered on clinicaltrials.gov (NCT04637022).

Methods

Fifty patients with benign uterine pathology at preoperative examinations (pelvic ultrasound and / or magnetic resonance and / or abdominal CT scan) and with indication for total laparoscopic hysterectomy, with consequently need for laparoscopic suture of the vaginal cuff, will be enrolled in the study. In order to avoid excess operating time, 15 min was allocated for completion of cuff closure by surgeons-in-training, after which time the attending surgeon took over this task. The intervention will be performed by surgeons in training attending the last year of specialization, under the supervision of a specialized and experienced surgeon (first assistant). Enrollment will be closed by the end of September 2021.

Results

The primary endpoint is to compare the time taken to close the vaginal cuff, which was defined as time, starting from the initial grasp of the suture to cutting the suture, with 3D Laparoscopy vs 4K laparoscopy. The secondary endpoint is to evaluate the incidence of intraoperative complications in the two laparoscopic system (intraoperative blood loss, need for intraoperative transfusions, bladder lesions, ureteral lesions, vascular lesions, intestinal lesions).

Laparoscopic sacral hysteropexy versus laparoscopic sacral colpopexy plus supracervical hysterectomy in patients with pelvic organ prolapse

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Background

Performing sacral colpopexy preserving the uterus or in association with concomitant subtotal hysterectomy for the treatment of pelvic organ prolapse is still a subject of debate today. We compared objective and subjective outcomes of laparoscopic sacral hysteropexy (lshp) and laparoscopic sacral colpopexy with concomitant supracervical hysterectomy (lscp/sch) in patients with symptomatic pelvic organ prolapse.

Methods

This is a multicenter retrospective cohort study conducted at urogynaecological department of the Fondazione Policlinico universitario a. Gemelli IRCCS of Rome and at the Diaconesses Croix Saint Simon Hospital of Paris. We collected data of 136 patients, 78 underwent lshp and 58 underwent lscp/sch for pelvic organ prolapse between January 2016 and December 2017.

Results

Patients of the two groups had similar preoperative characteristics. All patients completed 24-months follow up evaluation. Overall anatomical cure rate was 84.6% and 87.9% in the lshp group and lscp/sch group respectively without statistically significant differences. In particular, in lshp group anatomical success rate was 94.9%, 92.3%, 92.3% for apical, anterior and posterior vaginal compartment whereas in the lshp group lscp/sch was 100%, 91.4%, 94.8% respectively. Subjective success rate was 89.7% among patients who underwent lshp and 93.1% among women who underwent lscp/sch (p=0.494). The median operative time (ot) was significantly shorter in lshp. There were no significant differences between the groups in terms of estimated blood loss, conversion to laparotomy, intra and postoperative complications. No mesh exposure occurred in either group. Patients' satisfaction was high in both groups without statistical differences. A univariate and multivariate analysis was performed to better investigate risk factors for recurrences: preoperative grade of cystocele > 2 may triple the probability of having a recurrence (or 3.39; ic 1.216-9.464, p=0.020).

Conclusions

Both laparoscopic procedures are safe and effective in the treatment of pop. lshp can be offered as an alternative in women who are strongly motivated to preserve the uterus, in the absence of abnormal uterine findings.

**ES30-0188 -
Hysteroscopic Surgery**

‘See and Treat’: Evaluating the success rates and patient acceptability of outpatient hysteroscopy

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Background

Over the past decade the management of abnormal uterine bleeding has evolved from multiple hospital visits to a single appointment where an examination, a pelvic scan and both diagnostic and operative hysteroscopy can be offered. In the literature, the ‘one stop’ approach has a good success rate and patients find this procedure acceptable under local anaesthetic (Nikolaou, 2009). It is more cost effective (Saridogan, 2010) and with increasingly elderly or comorbid patients requiring investigation avoiding a general anaesthetic is beneficial.

Our aim was to review the success rates in our newly started hysteroscopy clinics, the acceptability of the procedure as an outpatient, and the most effective analgesia.

Methods

A retrospective analysis of 85 patients attending the clinic from January to May 2021 was undertaken.

The inclusion criteria follow NICE guidelines for referral for hysteroscopic investigation and treatment of women presenting with abnormal uterine bleeding.

We have taken steps to make this procedure more acceptable as an outpatient by trialling the use of instillagel as a local anaesthetic, either alone or in combination with cervical local anaesthetic and hysteroscopic morcellator device for non-touch cervical dilatation technique. All patients were asked to take their usual home analgesia 1 hour prior to clinic appointment.

Results

The most common presentation were post-menopausal bleeding (67%) and heavy menstrual bleeding (29%); 76% of the women attending the clinic required a hysteroscopy. Of those for whom hysteroscopy was indicated the success rate under local anaesthetic was 80%. One woman was unable to tolerate the procedure and the remainder of the unsuccessful procedures were due to stenosed cervical os.

Of those who underwent hysteroscopy, 48% received vaginal instillagel in addition to home analgesia, 24% had only instillagel and 12% received cervical anaesthetic. The mean pain scores reported by patients receiving instillagel and home analgesia and instillagel only were of 4.25 and 4.1 respectively. Those who received home analgesia and cervical anaesthetic had a mean pain score of 6.2.

Conclusions

Overall, our success rate is comparable with recent published literature data for an outpatient service. Within our study, the use of instillagel led to better patient pain scores compared to the use of cervical anaesthesia which used to be the mainstay of analgesia for outpatient hysteroscopy. Outpatient ‘see and treat’ hysteroscopy clinics are acceptable to patients under local anaesthetic. The use of instillagel instead of cervical anaesthesia leads to acceptable pain levels and good outcomes.

Bladder endometriosis: from diagnosis to surgical treatment

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Background

Endometriosis affects about 10% of women in the general population. Most commonly affected locations are ovaries, uterosacral ligaments and rectosigmoid colon. Urinary tract involvement is less frequent (1%) and bladder is the most commonly affected organ. However, in the subpopulation of women with deeply infiltrating endometriosis, urinary tract endometriosis is detected in 20 to 50%.

Methods

Describe a clinical case of deep infiltrating endometriosis with bladder involvement, from clinical and imagiological diagnosis until surgical approach. Clinical information was retrieved from medical records.

Results

A 43-year-old healthy woman presented to the outpatient gynaecological clinic with abnormal uterine bleeding, hematuria and episodes of dysuria. She had been previously submitted to cystoscopy with biopsy confirming endometriotic lesions. Gynaecological examination was normal. Transvaginal ultrasound was performed and showed a heterogeneous intramural vesical lesion with irregular margins, without vascularization, with 29x15x40mm, adjacent to vesicouterine pouch. Pelvic magnetic resonance was also done and a nodular lesion with 47x23mm on uterovesical space involving bladder and uterus and, also, ovarian endometriosis at right side was described. CA 125 value was elevated - 181 U/mL in agreement endometriosis especially endometriomas. One year later, due to symptoms resistant to medical treatment (levonorgestrel intrauterine system), she was proposed to laparoscopic hysterectomy and resection of bladder endometriotic lesion.

The surgery started with cystoscopy in order to place ureteral stents; however ureteral orifices were not visualized due to extension of lesion.

On laparoscopic inspection, we observed a median retractile lesion on vesicouterine pouch that included round ligaments. Partial cystectomy was performed after extensive ureterolysis until the uretero-vesical junction and dissection at the utero-vesical space/septum up to the trigone. A continuous two-layer suture was made to close the bladder). To reduce risk of vesico-vaginal fistula, a subtotal hysterectomy was performed.

On the 5th postoperative day, a cystitis by *E. coli* was diagnosed and successfully treated with antibiotics.

On the 15th postoperative day, urinary catheter was removed. No intercurrent registered.

Conclusions

Imaging plays an important role in the diagnosis and pre-operative planning of endometriosis, especially deep infiltrating endometriosis. Surgical treatment of bladder endometriosis implies total excision of the lesion and transurethral resection is not adequate. Laparoscopic treatment of bladder endometriosis requires an experienced laparoscopic surgeon with dissection and suturing advanced skills. A multidisciplinary approach is fundamental, and we counted with urologist's collaboration for the attempt of ureteral catheterization and per-operative advice

How useful is dry lab training in improving performance of laparoscopic suturing?

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Background

To evaluate the effectiveness of hands-on laparoscopic suturing training in technical and knot tying skills using visual analogue scales.

Methods

One day suturing course begins with theoretical lectures and video presentations to demonstrate knot tying, followed by supervised practical session using dry lab laparoscopic training boxes in a ratio of one faculty to two delegates. Evaluation of training was performed via self and tutor assessment questionnaires using visual analogue scale of 10cm length to measure pre and post-training scores. Five essential laparoscopic suturing technical skills including needle handling, dexterity, tissue handling, knowing efficiency and knot tension were assessed. In addition, self-evaluation on four different knot tying skills including square knot, surgical knot, spaghetti knot and Weston knot were performed. Scores were analysed using paired t-test to check for statistical significance.

Results

19 trainees between year 3 and 7 were included in this study. The mean scores for overall technical skills improved from 3.9 to 7 from self-assessment ($P=0.000$) and 4.1 to 7.2 from tutor assessment ($P=0.000$) after training. The mean scores of tutor assessments for needle handling went from 3.8 to 7 ($P=0.000$), 4.1 to 7.1 ($P=0.000$) for dexterity, 4.3 to 7.2 ($P=0.000$) for tissue handling, 3.8 to 7.1 ($P=0.000$) for knowing efficiency and 4.6 to 7.4 ($P=0.000$) for knot tension after training. The mean scores of self-assessment for tying square knot went from 2.3 to 7.1 ($P=0.000$), 2.7 to 7.1 ($P=0.000$) for surgical knot, 1.6 to 6.3 ($P=0.000$) for spaghetti knot and 1.2 to 6.5 ($P=0.000$) for Weston knot after training. These technical and knot tying skills improvement were observed irrespective of the trainees' laparoscopic skills proficiency.

Conclusions

There was a statistically significant difference in mean scores showing improvement for both self-assessment and tutor assessment in pre and post training session using dry lab laparoscopic boxes. The perception of acquisition of skills and knowledge appeared to be similar in trainees' and tutors' assessments. This feedback can be used to assess for competence, confidence, strength and weakness as well as quality of the course. Although there are validated assessment tools for gynaecological laparoscopic skills (SUTT from GESEA training programme), there may be a place for simple, reproducible assessment tools for focused training sessions and specific skills development.

#ENZIAN classification: ultrasound staging, feasibility, interobserver reproducibility and correlation to symptoms

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Background

Objective: to test ultrasound evaluation of pelvic endometriosis using the new #ENZIAN classification, to assess feasibility and interobserver reproducibility and to correlate it to symptoms.

Methods

123 women presenting clearly ultrasonographic features of pelvic endometriosis were staged according to #ENZIAN classification. In order to assess interobserver reproducibility two operators (A and B) performed transvaginal sonography (TVS) in 50 patients affected by pelvic endometriosis. Each patient was scanned twice, by the first operator A and immediately after by the second operator B. The two operators independently after every ultrasound scan assessed the staging of the disease according #ENZIAN classification. Rate agreement and reproducibility between the two operators in the assessment of the different compartments by ultrasound pelvic examination was determined. In all 123 patients with endometriosis at ultrasound the final classification and the single compartments were correlated to symptoms. For deep endometriosis (DIE) 3 pelvic compartment (A,B,C) and three level degree were considered. Other forms and sites of endometriosis such as adhesions and fallopian tube (T), ovary (O) and peritoneal lesions (P) were included and graded in three level. Bladder (FB), adenomyosis (FA), bowel (FI) Ureter (FU) as also endometriosis in other sites outside the pelvis were considered as separate compartments but not graded in levels. Peritoneal (P) endometriosis was not considered in the ultrasound evaluation.

Results

Multiple rate agreements to classify endometriosis, according the #ENZIAN classification based on three level in different compartments, ranged from good to almost perfect agreement (Cohen k 0.658 – 1) Less agreement, which was already good (Cohen k >0.65) was detected for compartment A, B, FU and in particular T where less agreement for the absence of pelvic adhesions was noticed. Considering the different compartment levels the worseness agreement, which was however already good (Cohen k 0.658), was observed for compartment level T1 and A1. Regarding the correlation to symptoms statistically significant associations ($P < 0.001$) were found between compartment B and dyspareunia, compartment C and dyschezia, compartment O and T and dysmenorrhea. Statistically significant correlations were also detected between symptom severity of dyschezia and grade of compartment C. Severity of dysmenorrhoea and dyspareunia was correlated with associated lesions of compartment A and B and O and B. HMB was mostly correlated to the presence of adenomyosis (FA).

Conclusions

The new #ENZIAN classification for the evaluation of pelvic endometriosis is reproducible and easy to use at the ultrasound evaluation of pelvic endometriosis. Compartment T and A however showed a non optimal intraobserver agreement. The standardization of the diagnosis and extension of pelvic disease represent a crucial point for a correct management and surgical approach of the endometriosis disease.

ES30-0195 - Hysteroscopic Surgery

Feasibility and safety of office hysteroscopy in patients with anticoagulant or anti-platelet treatment

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Background

Several guidelines suggests that anticoagulation may not need to be stopped for some invasive procedures. The decision to interrupt or change anticoagulation treatment relies on the balance between risk of bleeding and the effects of interruption of antithrombotic treatment on the risk for cardiovascular events and on the delaying of the diagnosis. There is increasing evidence that some minor surgeries and certain endoscopic procedures can be performed safely without stopping anticoagulation or anti-platelet treatment.

Objectives: Analyze the outcome of the hysteroscopic procedures performed in Office setting in patients with anticoagulants and antiplatelet treatment

Methods

Longitudinal retrospective study analyzing the procedures performed in office setting in patients with anticoagulation or anti-platelet treatment in our Center between May 2008 and April 2021.

In our center, a protocol was established in accordance with the Hematology department, according to which hysteroscopy was allowed in Office setting without withdrawing or modifying the treatment in patients receiving warfarin with an INR between 2 and 3 the week before the procedure.

This protocol was agreed upon after reviewing the available evidence in other minor surgery and endoscopy procedures.

Results

Between May 2008 and April 2021 112 procedures were performed in patients in treatment with warfarin, New Oral Anticoagulants or anti-platelet treatment.

The mean age of the patient was 67,7 y (34-91).

The most frequent indication was postmenopausal bleeding (58%), followed by incidental thickened endometrium in ultrasound (16%), endometrial polyp in ultrasound (11,6) and heavy menstrual bleeding (9,8%).

Most of the procedures were safely resolved in Office setting: 74% complete removal of the pathology including 53 polypectomies, 4 myomas, 1 IUD removal, 2 pyometers evacuations and 36 endometrial biopsies; 9 of them with final diagnosis of endometrial adenocarcinoma.

In 4 cases office hysteroscopy was not possible due to stenosis and in 4 cases a scheduled hysteroscopy in Operative Room was required. No cases of emergency hysteroscopies in operative Room were recorded. No cases of massive bleeding were observed.

Conclusions

Our results confirm that by making a good selection of patients, hysteroscopy in Office setting in patients with anticoagulant or antiplatelet treatment is feasible and safe.

**ES30-0196 -
Hysteroscopic Surgery**

Service evaluation endometrial ablation using Thermablate 3 year follow up

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Background

Thermablate as an alternative to Novasure was introduced in Kings Mill Hospital in early 2017 for use as an outpatient procedure under local anaesthetic.

The Thermablate EAS system consists of a handheld automated device. It uses a single-use disposable catheter balloon cartridge that contains 28 ml of a biocompatible treatment fluid inside the cartridge which is heated to a temperature of 173°C. It safely and effectively treats patients in 2 minutes.

Aim of service evaluation

At 1 year success and satisfaction rates very good.

Was the same effect noticeable at 3 years?

Methods

A retrospective case notes review of 25 patients who had undergone the procedure between October 2017 and January 2018 was done and a patient questionnaire was used. Telephone consultations approximately 1 year post procedure were done to ascertain the effectiveness of the procedure and the overall satisfaction of the patient's experience with this type of ablation was performed. Further evaluation done 3 years later – telephone survey

Methods

The 25 patients were telephoned

On the 1st attempt able to get through to 9 out of 25 patients

On the 2nd attempt 3 more patients responded

Unable to contact 13 patients

Results

Type of bleeding	1 year	3 years
Nil (had gone through menopause)	19%	17%
spotting	38%	25%
Light bleeding	24%	17%
No change	5%	8%
heavy	14%	33%

In those who had excessive bleeding

All women aged 38 - 41 years of age

Satisfaction rates dropped significantly

1 year later 17/21 were very satisfied = 80% and another 2/21 said very satisfied, over all 90%

3 years later 5/12 were satisfied (>50%) = 42%

Would they recommend to family/friends

At 1 year 95% said they would recommend the procedure

At 3 years 9/12 said would recommend = 75% Of these women 2 felt that it had worked well for 18 -24 months

Conclusions

Limitations

Small cohort of women

Lower rate of response at year 3 captured only 12 out of 25 cases

Thermablate is quick treatment for the patient with shorter recovery time and patients can avoid the risks associated with general anaesthetic. Thermablate use in the outpatient setting at Kings Mill hospital has been effective at reducing the degree of menstrual bleeding and overall patients are satisfied with the procedure at 1 year.

However when followed up at 3 years 33% had described heavy bleeding and the satisfaction with results halved.

Dissatisfaction with results was predominantly women under age of 42 when they had the procedure.

Recommendation: Use of thermablate in an outpatient setting is beneficial to patients who are in the older age group. •In younger women less than 40 years of age cautious recommendation for the procedure as very likely to fail in the long term. •Consider further follow up at 5 years to evaluate outcome

**ES30-0203 -
Fibroids, including morcellation OR tissue extraction**

Evaluation of the clinical- & cost-effectiveness of ultrasound-guided radiofrequency ablation of leiomyomas via the transvaginal route (esonata): a prospective comparative cohort study

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Background

Intrauterine ultrasound (IUUS)-guided radiofrequency (RF) ablation with the Sonata® System (Gynesonics) is a minimally invasive, incisionless, uterine-conserving outpatient treatment for the majority of uterine leiomyoma types. Several studies show significant reduction of leiomyoma-related menstrual bleeding, overall symptom severity, and improved quality of life after treatment together with excellent safety and a low surgical reintervention rate. Insurance carriers in the Netherlands do not yet include the Sonata system as a covered treatment option as controlled and cost-effectiveness studies and support of the Dutch Federation of Medical Specialists are lacking so far. This study aims to evaluate if removal of uterine leiomyomas by IUUS-guided transvaginal RF ablation is an alternative to laparoscopic hysterectomy, and tomic myomectomy (usual care) in terms of time to return to work. Secondly, quality of life will be evaluated, and a cost effectiveness analysis (CEA) will be performed.

Methods

This is an ongoing single centre prospective comparative cohort study, with 99 participants of Máxima Medical Center (Veldhoven/Eindhoven, the Netherlands) (NTR#NL8248). It consists of three study groups: 1) IUUS- RF ablation with the Sonata system, 2) laparoscopic hysterectomy, 3) laparotomic myomectomy. Women will be treated according to local standards of care. Women >25 years, American Society of Anesthesiologist (ASA) class 1-2, with at least one submucosal leiomyoma (type 2) or transmural leiomyoma (type 2-5), presenting with complaints associated with intrauterine leiomyomas, and undergoing one of three treatments are eligible for inclusion in this study. After giving informed consent, participants will be followed for 18 months starting at the day of treatment, and receive 4 composed questionnaires at baseline, and 6, 12 and 18 months after treatment. The primary outcome is return to work in days at 6-months follow-up. Secondary endpoints are uterine fibroid symptom and health-related quality of life (assessed by the UFS-QOL questionnaire), reintervention rate, post-operative complications, satisfaction and recommendation (assessed on a 5-point Likert scale), and costs from a healthcare and societal perspective. Lastly, our exploratory endpoint will be volume reduction of the uterine leiomyomas, measured by ultrasound pre- and post-operatively.

Results

At the time of writing, 33/33 patients were included in the Sonata-group, 26/33 in the laparoscopic hysterectomy group, and 15/33 in the laparotomic myomectomy-group, therewith 74.7% of the required inclusions were achieved. Our goal is to complete the inclusions before October 2021. Currently, 34 patients (34.3%) have reached 6-months follow-up, of whom 82.4% have completed the composed questionnaire, resulting in complete data from 28.3% patients at 6-months follow-up.

Conclusions

The first interim analyses, focusing on our primary outcome, will be performed in early July 2021. By then, 47 patients (47.5%) have reached 6-months follow-up. The first interim analyses, focusing on our primary outcome, will be performed in early July 2021. By then, 47 patients (47.5%) have reached 6-months follow-up.

Nodal assessment in endometrial atypical hyperplasia. Should sentinel node research be recommended?

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Background

Atypical endometrial hyperplasia (AH) is the neoplastic precursor more often associated with endometrial cancer (EC). Nowadays, 25-50% of patients subjected to hysterectomy for AH are diagnosed with EC and there is no consensus on which AH patients would benefit from nodal staging. This study aimed to evaluate nodal assessment and preoperative cancer risk factors in AH patients undergoing nodal surgical staging.

Methods

Patients undergoing surgical treatment for AH were retrospectively included in the analysis. Patients with final diagnosis of AH and EC were divided into two groups and analyzed. The ESGO/ESTRO/ESP risk classification was used for EC cases.

Results

Of the 207 AH patients treated, 152 patients met the inclusion criteria. Thirty-nine patients were in the low-risk group (25.7%), 8 in the intermediate-risk group (5.3%), 4 in high-intermediate (2.6%), and 3 patients were allocated in the high-risk group (2.0%). 54 total patients underwent nodal surgical staging. Only one nodal micrometastasis (0.7%) was found at ultrastaging. Multivariate analysis showed abnormal uterine bleeding (AUB) ($p = 0.01$), hypertension ($p < 0.01$), and endometrial thickness > 20 mm ($p = 0.02$) statistically more represented in the EC group. EC risk was 2.9 (95% CI 1.29-6.48) in AUB, 2.7 (95% CI 1.06-6.92) in hypertension, and 3.1 (95% CI 1.19-7.97) in endometrial thickness > 20 mm cases.

Conclusions

The overall risk of nodal metastases in AH patients is low. Conversely, 9.9% of the AH patients belonged to the intermediate or high-risk group for EC. Preoperative EC risk factors could identify patients for whom nodal staging is recommended.

Recurrence rate and fertility outcome after diode laser treatment of deep endometriosis: a 3-year follow-up study

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Background

To assess postoperative recurrence rates and likelihood of natural conception in women with deep endometriosis who underwent laparoscopic treatment with diode laser.

Methods

This is a retrospective study with prospective recording of data. Sixty patients underwent laparoscopic endometriosis lesions/nodules excision using a diode laser (Leonardo®, Biolitec® DUAL 45) that can combine 980 and 1470 nm wavelengths transmitted through a 1000 micron conical optical fiber between October 2017 and May 2019 at two University hospitals (Monserrato (CA) and Foggia, Italy). Indications for surgery were chronic pelvic pain and/or infertility in patients who wished to conceive spontaneously. After surgery, patients were incorporated in a prolonged surveillance program with periodic clinical follow-up to check for recurrence endometriosis lesions and/or recurrence of symptoms. Endometriosis recurrences were identified by transvaginal ultrasound or Magnetic Resonance Imaging (MRI). Patients wishing to become pregnant were allowed to attempt a spontaneous conception after surgery. If spontaneous conception failed, patients were referred for in vitro fertilization (IVF) and excluded from the study.

Results

The mean follow-up was 31 +/- 12 months (range, 24–44). Recurrence of deep endometriosis was recorded in 6.6% of patients (n = 4) managed with diode fiber laser. Recurrence of endometriosis-related pain was observed in 5 patients (8.3%). The presence of retro-rectal deep endometriosis lesion at the time of surgery was identified as the only independent poor prognostic indicator for endometriosis recurrence (p = .006; odds ratio [OR], 2.19; 95% confidence interval [CI], 1.21–3.12). Moreover, the discontinuation of hormonal treatment was independent poor prognostic indicators for pain recurrence. Twenty five patients (41.6%) tried to spontaneously conceive after laparoscopic treatment and 15 (60%) of these women achieved pregnancy.

Conclusions

Our study showed an appropriate surgical technique and during the shaving surgical procedure, the diode laser system ensures a safe and effective laparoscopic dissection of deep endometriotic lesions with recurrence and pregnancy rates comparable with those occurring using other types of energy.

Endoscopic endometrial fundus incision during hysteroscopy in acceptors of donor oocytes and the impact on the live birth outcome

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Background

Endometrial injury with pipelle (scratching) it seems to be inconclusive whether improves pregnancy outcome or not in IVF. To investigate the effect of real endometrial injury with endoscopic scissors we performed a study where hysteroscopic endometrial fundus incision (EFI) was offered during routine hysteroscopy in acceptors of donor oocytes, in a single IVF center during 2020.

Methods

This is an observational retrospective non-randomized controlled trial. One hundred and sixty-seven (167) infertile women under the age of 50 treated as Acceptors of donor oocytes were included. Among these patients 35 were diagnosed with minor or major endometrial pathology and were excluded from analysis. Therefore, only 132 women finally recruited and analyzed. All women underwent hysteroscopy under oral contraceptive pill for better visualization of the cavity and less hemorrhagic predisposition.

Fifty women (n=50) underwent hysteroscopy with EFI in the early follicular phase of the previous cycle and (n=82) underwent the standard diagnostic hysteroscopy without any intervention. Live birth or ongoing pregnancy above 28 weeks and was the primary outcomes. Patient who had endometrial pathologies were excluded from the study as mentioned above. Only Blastocyst transfer was allowed.

Results

After transfer of maximum 2 blastocysts in each group we observed Live Birth Rate or Ongoing clinical pregnancy rate above 28 weeks were 56% (28/50) in the endoscopic incision group versus 41.4% (34/82) in the simple hysteroscopy group without any intervention. The above difference was statistically significantly different ($p < 0,05$), favoring the endometrial injury group.

Conclusions

We selected only acceptors of donor oocytes -for the first time in literature- to eliminate bias of oocyte quality and in normal IVF with own eggs. Our study suggests that real endometrial injury with endoscopic scissors at the fundus is beneficial in egg donation cycles to increase the odds of implantation and live birth.

Robotic stapler disc bowel resection for DIE of the recto-sigmoid colon. Case study and outcomes

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Background

We have performed a number of laparoscopic discoid stapler bowel resections for deep infiltrating endometriosis of the bowel previously. In 2021 we have performed robotic assisted disc bowel resection using DaVinci Xi robot at The Princess Grace Hospital London, which we believe is the first operation of this kind performed robotically in the UK. We would like to discuss indications and contra-indications for this technique, selection criteria and surgical outcomes.

Methods

We have selected patients using the information obtained from history taking, gynaecological examinations and MRI of abdomen and pelvis (endometriosis protocol) All surgical procedures were video recorded with patients consent and intra-operative findings and postoperative complications were recorded using BSGE Endocentres database. The intraoperative and surgical outcomes data will be presented.

Results

We have demonstrated radical robotic excisional surgical technique for bowel DIE which is superior to traditional shaving and results in much less surgical trauma and postoperative complications comparing to segmental bowel resection for deep infiltrating endometriosis of the bowel.

Conclusions

Robotic assisted stapler discoid bowel resection is a promising radical excisional surgery technique for deep endometriosis of the bowel. It allows less traumatic approach and is superior to the most used shaving technique, which is often offers incomplete removal of mural bowel nodules.

We believe to have performed the first UK stapler discoid bowel resection on the DaVinci Robot. This is a very promising surgical technique for appropriately selected patients which we would like to share with ESGE together with our surgical outcomes data.

Operative outcomes using LigaSure compared with conventional Bipolar in TLH for benign Gynaecological diseases in Ain Shams University hospital (Egypt): A randomised controlled trial

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Background

Hemorrhage is one of the most frequent complications during surgery, so adequate hemostatic techniques are essential during surgical procedures, in particular with the laparoscopic procedures. In this study we compared the effects of LigaSure® (Valleylab/Covidien) versus the conventional bipolar technique (RoBi®, STORZ) on the operating time and the blood loss during TLH.

Methods

A randomized controlled trial performed in Ain Shams University, Cairo, Egypt from April 2019 to March 2021. 140 Women who underwent laparoscopic hysterectomy (TLH) for benign gynaecological disease, 70 women of them underwent TLH using LigaSure vessel sealing system while the rest underwent TLH using conventional bipolar instruments.

Results

In comparison with Bipolar cautery Group, the Ligasure Group had significantly shorter operation time (27.01 ± 13.06 minutes VS 35.06 ± 16.95 minutes ($p=0.002$), while there was non-significant difference between both groups regarding blood loss (139.29 ± 73.67 minutes VS 157.86 ± 59.37 minutes) ($P=0.103$), length of hospital stay, incidence of major bleeding or complications.

Conclusions

Both Bipolar and Ligasure are safe and effective. Use of Ligasure shortens the duration of TLH with no increase in the complications or significant decrease in the blood loss.

Ultrasound findings of adenomyosis in adolescents: type and grade of the disease related to clinical symptoms

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Background

To evaluate the ultrasound features, type and degree of adenomyosis in an adolescent's population, and to correlate these findings with clinical symptoms.

Methods

This was a retrospective observational study. Two Gynaecological Ultrasound Units were involved. Forty three adolescents (aged 12-20) who were diagnosed with adenomyosis at a pelvic ultrasound examination from January 2014 to June 2020, were included in study. Ultrasound features, location and extent of adenomyosis within the uterus, classified according to our previous classification, were evaluated and were stored as 2D images and videos and 3D volumes.

Results

Adenomyotic features that were more prevalent among our population were myometrial hyperechoic areas, uterine wall asymmetry, intramyometrial cystic areas and some types of JZ alterations. Posterior uterine wall (58%) and the outer myometrial layer (93%) were mostly affected. In 44.2% (19/43) of adolescents with adenomyosis, at least one location of pelvic endometriosis was documented. Dysmenorrhea was the most commonly reported symptoms (88.4%) and it was more associated with adenomyosis of the outer myometrium, myometrial hyperechoic areas, uterine wall asymmetry and intramyometrial cystic areas. Adolescents with dyspareunia showed more diffuse adenomyosis (9/9pts) that often affected both inner and outer myometrium (7/9pts) and the posterior wall (7/9pts). Heavy menstrual bleeding was more associated with diffuse adenomyosis (18/23pts) mostly of the outer myometrium (22/23pts). Scoring system revealed mostly a mild disease and no severe adenomyosis. There was no statistically significant difference regarding age or symptoms among patients showing mild and moderate disease. Adolescents with diffuse adenomyosis were significantly older and showed a higher percentage of heavy menstrual bleeding, compared to those with the focal disease of the inner myometrium.

Conclusions

We observed a moderate association between adenomyosis US features, types, and clinical symptoms in adolescent women. Adenomyosis seems to present mostly as mild to moderate disease, and often with a diffuse pattern.

Impact of COVID-19 on endometriosis surgery in the UK: analysis by centre and region, and correlation with COVID-19 mortality rates

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Background

The COVID-19 epidemic has disrupted surgical services across Europe due to its impact on medical staff, operating theatre availability and patient access to care. In the United Kingdom (UK), a particular concern is the impact of COVID-19 on patients with severe endometriosis, who already experienced significant delays to diagnosis and treatment. The optimal allocation of resources during the pandemic recovery period to make up for the shortfall in operations will present a grave challenge. The British Society for Gynaecological Endoscopy (BSGE) collects data from all registered centres for deep endometriosis surgery. In this study we aimed to analyse the impact of the pandemic on endometriosis surgery by comparing the number of BSGE-registered operations for endometriosis in 2020 with the previous 3 years for each centre and region, as well as with the regional COVID-19 death rates.

Methods

Data on surgery for severe endometriosis is submitted to the BSGE by all accredited centres in the UK, and is regularly audited. Data from these audits were obtained for 2017-2020 inclusive. Data from Northern Ireland was excluded as surgical data was insufficient for analysis. Regional data on population and COVID deaths was obtained from the UK Office for National Statistics (ONS) and the National Records of Scotland (NRS). Statistical analysis was performed in SPSS using Pearson r .

Results

The total number of operations for rectovaginal endometriosis at BSGE centres in the UK decreased from 2029 operations to 1032 operations between 2019 and 2020. At a centre level, 60 endometriosis centres had reduced operation numbers and 9 centres had increased operations in 2020 compared with the average for 2017-2019, while 4 centres were newly accredited in 2020. Overall, there was a median decrease in operations per centre of 51.0% (IQR 29.4% – 75.0%). At a regional level, all 11 administrative regions of Great Britain had reduced numbers of operations in 2020 compared with averages for 2017-2019, with a median 56.6% decrease (range 6.13% - 68.62%). Regions had a median of 1.49 deaths from COVID-19 per 1000 population (range 0.80 – 1.91). At a regional level, reduction in rectovaginal endometriosis operations was significantly correlated with COVID-19 death rates ($r=0.56$, $p<0.05$).

Conclusions

Operations for rectovaginal endometriosis have decreased significantly in 2020, which will require increased resources and planning to maintain standards of care. Regions with higher COVID-19 death rates had greater declines in operations, which may be due to greater repurposing of operating theatres, staff and hospital beds for the care of COVID-19 patients in these regions. This understanding may help plan for allocation of increased resources necessary to make up for the shortfall in endometriosis surgery during the recovery period of the pandemic.

Prevalence of adenomyosis among patients who undergone postpartum hysterectomy

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Background

To evaluate the prevalence of adenomyosis among specimen of postpartum hysterectomy with the aim of assess whether the presence of adenomyosis may predispose to postpartum haemorrhage together with other complications.

Methods

This was a multicentre, retrospective, no profit, cohort study. Three adenomyosis-endometriosis referral centres (tertiary centres with a specific gynaecological unit) were involved.

Data were extracted from hospital databases of participating centres. They were obtained from clinical records of patients that have undergone either peri- or postpartum hysterectomy between 2010 and 2020 with the aim of evaluate the presence of adenomyosis on uteri specimens.

Other complications related to the location and/or development of placenta or other obstetrical complication were also reported.

Results

Twenty-nine patients responded to inclusion criteria. Among the uteri specimens, adenomyosis has been reported in nine patients (31%) although in all cases diagnosis has been made only retrospectively with histological examination. Among patients with adenomyosis, five patients (56%) had other gynaecological conditions (mostly fibromas).

Moreover, five patients showed anomalies of placenta praevia spectrum (56%), and four patients (44%) had other obstetrical complication such as intra uterine growth restriction, preeclampsia, and preterm birth.

Conclusions

Adenomyosis prevalence among patient who undergone postpartum hysterectomy is higher than general population. Adenomyosis is also related to other obstetrical complications.

Further studies are necessary to confirm those data.

Comparison between laparoscopic and robotic surgery in elderly patients with endometrial cancer: a retrospective multicentric study

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Background

Studies in which different types of minimally invasive approaches in elderly patients are compared are missing. The aim of this study was to evaluate the surgical and oncological outcomes of patients of 70 years or older who had undergone laparoscopic (LS) or robotic surgery (RS) for endometrial cancer (EC).

Methods

This is a retrospective multi-institutional study in which all the patients who had undergone minimally invasive surgery for EC were considered. The inclusion criteria were: EC confirmed at definitive histological examination, FIGO stage I-IV and age of 70 years or older. Owing to the non-randomized nature of the study design and the possible allocation biases arising from the retrospective comparison between LPS and RS groups, we also performed a propensity score-matched analysis (PSMA).

Results

A total of 537 patients with EC were included in the study: 346 who underwent LS and 191 who underwent RS. No significant statistical differences were found between the two groups in terms of surgical and survival outcomes. 188 were analyzed after PSMA (94 patients in the LS group were matched with 94 patients in the RS group). The median estimated blood loss was higher in the LS group ($p=0.001$) and the median operative time was higher in the RS group ($p=0.0003$).

Conclusions

Our study showed that when compared LS and RS, none of the two approaches demonstrated to be superior in surgical and survival outcomes. For this reason, each patient should be evaluated individually to determine the best surgical approach.

The development of procedure-specific consent forms for use in gynaecology within NHS Greater Glasgow and Clyde

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Background

The General Medical Council (UK) guidance stipulates that “shared decision making and consent are fundamental to good medical practice,” and this principle should be regarded throughout the global medical community, irrespective of the model of care.

Whilst we often focus on the modernisation and development of technical aspects of gynaecological endoscopy, it is also important to place some emphasis on the development of the non-practical aspects of a surgical service. It is with this in mind that we considered the impact of pre-operative counselling and in particular, the consent process, on the quality of the care that we provide within our health board.

Methods

Until recently, the consent process in our health board has been the responsibility of the operating surgeon and their own perception of the procedure specific risks, and the forms were handwritten, often on the day of surgery. A recent retrospective case-note analysis (2021) of the pre-operative counselling of 57 benign gynaecological cases within the health board was used to determine to what extent our consent forms adhered to the national standards (i.e. when compared with Royal College of Obstetricians and Gynaecologists Consent Guidance).

Results

This analysis had shown that only 55% of consent forms were considered adequate when compared with national standards.

Conclusions

Considering this, we undertook a project to create procedure-specific consent forms, based on national standards for consent. The ultimate aim of this was to standardise care, reduce unwarranted variation between patients and ensure that our consent processes are legally robust. The consent forms serve to complement the usual preoperative counselling and patient information leaflets which we provide to our patients.

By sharing this project with the European Society for Gynaecological Endoscopy, we hope to stimulate discussion regarding consent processes throughout the continent, and learn from each other's experience of this vital step in gynaecological endoscopy.

Management of large uterine polyps and fibroids in an outpatient setting during the Covid 19 pandemic

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Background

The aim of this study is to present the feasibility of large polyp and fibroid removal in an outpatient setting in order to avoid patient admission during the Covid 19 pandemic.

Methods

Retrospective analysis of hysteroscopic polypectomies and myomectomies that took place in our hospital's Outpatient Hysteroscopy Clinic from March 2020 to March 2021.

The procedures were performed using Lignospan, injected directly into the cervix as local analgesia and Myosure for the removal of the polyps/ fibroids.

Results

726 Outpatient Hysteroscopies were performed during this period. 89 of them (12.26%) involved removal of a polyp, 7 (0.96%) involved removal of a fibroid and 2 (0.28%) of the patients had both a fibroid and a polyp removed. Both fibroids and polyps were removed with the use of Myosure with a 5.8mm 0° hysteroscope. 50.5% of the polyps (45) were removed with Myosure Manual and mean cutting time was 124 seconds, whereas mean fluid deficit was 230ml. 29.3% of the polyps (26) were removed with Myosure Reach and 20.2% (18) were removed with Myosure Lite. All the fibroids were removed with Myosure Reach, which was also used in the cases of patients that had both a polyp and a fibroid. The average cutting time for Myosure Lite was 187 seconds and 264 seconds for Myosure Reach. The average fluid deficit for both procedures was 670ml.

The average size of polyps removed with Myosure Manual was 1.5cm whereas Myosure Lite was used for polyps with an average size of 2.8cm. Myosure Reach was used to excise polyps of a 3.5cm mean diameter and fibroids less than 4cm.

Conclusions

Outpatient Operative Hysteroscopy for large polyps and fibroids has a short operating time and an acceptable fluid deficit. This makes it a safe procedure with high satisfactory rates, that prevents patient admission to hospital settings during the Covid19 pandemic.

Laparoscopic modified Davydov's procedure in women affected by Mayer-Rokitansky-Küster-Hauser syndrome: a prospective case-control study of sexual function and sexual distress

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Background

To evaluate sexual function and sexual distress in women affected by Mayer-Rokitansky-Kuster-Hauser (MRKHS) who underwent laparoscopic modified Davydov's procedure.

Methods

From February 2013 to March 2021, 63 patients with vaginal agenesis underwent laparoscopic modified Davydov's procedure at San Raffaele Hospital in Milan. During the post-surgical follow up, sexual life was prospectively investigated. Two self-reported questionnaires evaluating the key dimension of female sexuality were administered to sexually active women: Female Sexual Function Index (FSFI) and Female Sexual Distress Scale (FSDS). The same questionnaires were given to age-matched sexually active healthy controls and results were compared.

Results

Fifty-six women with MRKHS (88.9%) who underwent laparoscopic modified Davydov's procedure have been regularly followed in our Institution. At a median follow up of 22 months (range 21-25), median vaginal length and caliber were 8 and 2.5 cm respectively. The 51.8% of women (29/56) referred to be sexually active, at a median of 9 months (range 6-12) after surgical procedure. Eighteen sexually active women (18/29; 62.1%), with a median age of 20 years, accepted to be included in the study. No statistically significant difference was found in frequency of sexual intercourse ($P=0.801$), in type of orgasms (vaginal, clitoral or both) experienced ($P=0.349$), and in total FSFI score ($P=0.097$) between patients and control groups. Instead, a statistically relevant difference was found regarding the *lubrication* domain of the FSFI ($P=0.017$), demonstrating that achieving and maintaining lubrication during sexual intercourses is more difficult for patients, compared to controls. Women who underwent surgery displayed a statistically significant higher level of sexual-related personal distress, as demonstrated by the difference between the overall scores of FSDS of the 2 arms (MRKHS = 18.77 ± 14.24 ; control = 8.61 ± 3.83 ; $P=0.041$). Particularly, patients claim to suffer feeling of *guilt* ($P<0.0001$) and *frustration* ($P=0.007$) for to their sexual life, and they see themselves as *inadequate* ($P=0.039$) and *inferior* ($P<0.0001$) because of their sexual problems.

Conclusions

All of our sexually active patients feel satisfied with their surgery. Indeed, the possibility to achieve orgasms comparable to control group confirms the laparoscopic modified Davydov's procedure as an optimal technique to create a neovagina. The topic of lubrication should be further discussed in the scientific community and in the meantime use of lubricants before and during the sexual act should be strongly suggested. However, the presence of sexual distress underlines the crucial importance of psychosexual education from the moment of diagnosis and throughout the follow-up. It is of paramount importance to help patients develop sexual self-confidence to enable them to reduce feelings of distress and inadequacy in the context of couple intimacy.

Vulvar endometriosis in a postmenopausal woman: a case report

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Background

Vulvar involvement of endometriosis is a rare condition, especially when not associated with local previous trauma (eg. episiotomies) and in postmenopausal women.

Methods

A case report carried out in the “Santa Maria alle Scotte” University Hospital, Department of Molecular and Developmental Medicine, Obstetric and Gynaecologic Unit.

Results

We present a case of a 46-year old woman who presented with a tense lesion measuring about 3.5 cm within the lower internal fold of the right labia majora. The patients reported history of dysmenorrhea (VAS 10/10), unexplained infertility, inguinal tuberculosis, but no previous diagnosis of endometriosis. Ultrasound was performed showing a unilocular cyst with ground glass echogenicity. First, suspect of an abscess or even a recurrence of tuberculosis was arisen and the patient was given antibiotics.

After a week, the patient was still complaining pain, so surgery was performed. The lesion was sent to histopathological examination and the definitive diagnosis referred to glandular endometriosis.

Conclusions

Endometriosis is a benign gynaecological disease that can involve different organs and tissues. Although rarely, vulva can also be affected. Endometriosis of the vulva must be taken into account when facing a lesion in a patient with typical clinical findings (dysmenorrhea, infertility, ultrasound features). Clinical diagnosis of skin endometriosis remains challenging and malignant conditions must be ruled out. Radical surgical excision represents the treatment of choice, since it allows definitive diagnosis and a fast recovery.

Gigantic ovarian cyst in the very young patient – What to do?

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Background

Due to various etiologies of ovarian tumors in different age groups the choice of surgical procedures must be made carefully. While logarithms exist to quantify statistical probabilities with regard to malignancy, in the real clinical world, risks and uncertainties remain, until final histology is present.

Preoperative tests such as imaging-studies and tumormarkers can quantify risk. Ultimately, the surgeon needs to decide about laparoscopy or laparotomy, about cystectomy of adnexectomy.

Looking at a particularly challenging case of a cystic abdominal tumor, we discuss this decision making process and review the available literature addressing this everyday problem.

Methods

The case report is based on the clinical and laboratory data of the described patient. Literature review was performed.

Results

A 23 year old patient presented to our gynaecological department with abdominal distention for one year. Other symptoms were absent. The gynaecological exam including sonography showed a big, unilocular tumor (30 x 23 x 13 cm) originating from the right ovary matching IOTA classification BD1. Tumormarkers (CA-125 and CEA) were found to be normal. The MR scan supported the suspected diagnosis of a serous cystadenoma. We conducted laparoscopic removal of the cyst. After discussion with the patient, decision was made to enter directly through the navel with the trocar inevitably rupturing the cyst. The cyst was removed carefully from the underlying ovarian tissue. [LW1] Unfortunately, now confirmed histology revealed a mucinous borderline tumor. Appendectomy had been performed previously. Laparoscopic staging was performed with ipsilateral salpingoophorectomy, peritoneal biopsy and washings and intracolic omentectomy. No further borderline-cells were found.

Conclusions

This is an unusual case presenting common problems. In recent years, management of borderline tumor has become less aggressive. As the alternative to our proceedings would have been a primary midline laparotomy (symphysis to xyphoid, given the size of the tumor) and primary ovariectomy of a possibly benign process, then followed – possibly – by a secondary midline laparotomy for oncologic completion, we feel that our management is justified by the available data. Our presentation would further evaluate different options and present the available literature.

Reproductive performance of women with and without intrauterine adhesions following recurrent dilatation and curettage for miscarriage: long-term follow-up of a randomized controlled trial

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Background

The Prevention of Adhesions Post Abortion (PAPA) study showed that application of auto-crosslinked hyaluronic acid (ACP) gel, an absorbable barrier in women undergoing recurrent D&C for miscarriage resulted in a lower rate of IUAs, 13% versus 31% (relative risk 0.43, 95% CI 0.22 to 0.83), lower mean adhesion score and significant less moderate to severe IUAs. It is unclear what the impact is of IUAs on long-term reproductive performance.

Methods

This was a follow-up of the PAPA study, a multicenter randomized controlled trial evaluating the application of ACP gel in women undergoing recurrent D&C for miscarriage. 152 women with a first-trimester miscarriage with at least one previous D&C, were randomized for D&C alone or D&C with immediate intrauterine application of ACP gel. All included women received a diagnostic hysteroscopy 8–12 weeks after randomization to evaluate the uterine cavity and for adhesiolysis if IUAs were present. Participants were approached at least 30 months after randomization to evaluate reproductive performance, obstetric and neonatal outcomes and cycle characteristics. Main outcome was ongoing pregnancy. Outcomes of subsequent pregnancies, time to conception and time to live birth were also recorded.

Results

In women pursuing a pregnancy, 14/24 (58%) ongoing pregnancies were recorded in women with identified and treated IUAs versus 80/89 (90%) ongoing pregnancies in women without IUAs odds ratio (OR) 0.18 (95% CI 0.06 to 0.50, P-value <0.001). Documented live birth was also lower in women with IUAs; 13/24 (54%) with versus 75/89 (84%) without IUAs, OR 0.22 (95% CI: 0.08 to 0.59, P-value 0.004). The median time to conception was 7 months in women with identified and treated IUAs versus 5 months in women without IUAs (hazard ratio (HR) 0.84 (95% CI 0.54 to 1.33)) and time to conception leading to a live birth 15 months versus 5.0 months (HR 0.54 (95% CI: 0.30 to 0.97)). In women with identified and treated IUAs, premature deliveries were recorded in 3/16 (19%) versus 4/88 (5%) in women without IUAs, P-value 0.01. Complications were recorded in respectively 12/16 (75%) versus 26/88 (30%), P-value 0.001. No differences were recorded in mean birth weight between the groups.

Conclusions

Reproductive outcomes in women with identified and treated IUAs following recurrent D&C for miscarriage are impaired compared to women without IUAs. As IUAs have an impact on reproductive performance, even after hysteroscopic adhesiolysis, primary prevention is essential. Expectative and medical management should therefore be considered as serious alternatives for D&C in women with a miscarriage. In case D&C is necessary, application of ACP gel should be considered.

Impact of postero-laterale parametrial nerve-sparing excision for deep infiltrative endometriosis on postoperative bowel, sexual and urinary functions

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Background

Deep infiltrative endometriosis (DIE) is a common non-malignant gynaecologic disease that usually creates a distortion of the anatomy infiltrating the retroperitoneal tissues. Within the DIE spectrum, postero-lateral parametrium is one of the most frequent localizations of deep lesions and its involvement by the disease is characterized by severe pain symptoms and pelvic dysfunctions, reducing drastically quality of life of these women. In patients requiring surgery, the key point of the surgical strategy during parametrectomy for DIE is to balance the surgical radicality with the need to avoid iatrogenic neurovegetative dysfunctions. Up to date, few cohort studies investigated the functional outcomes of nerve-sparing surgery for DIE with contrasting findings. The objective of the study is to evaluate the functional outcomes of nerve-sparing parametrectomy for deep infiltrative endometriosis (DIE) compared to DIE women undergone surgery without involvement of parametria by the disease

Methods

We conduct a multicenter retrospective study in two tertiary academic centers. Symptomatic patient with DIE not responsive to medical treatment were submitted to laparoscopic excision of DIE with or without nerve sparing parametrectomy. Other additional procedures were surgery for bowel endometriosis or urinary tract endometriosis. For each patient validated questionnaires were used to evaluate the urinary, gastrointestinal and sexual function before and after the surgery. The women were divided in two groups based on the present (P group) or not (NP) of postero-lateral parametrial endometriosis.

Results

One hundred patients with symptomatic DIE were enrolled (69 women with parametrial DIE and 31 with DIE without parametrial infiltration). After surgery 8.7% of patients experienced urinary retention, all in the P group ($p=0.173$). Preoperative and postoperative values of KESS, GIQLI, FSFI, BFLUTS and pain symptoms were comparable between the two groups, except for postoperative sexual dysfunction and dyspareunia, which was statistically higher in the P group ($p=.049$). The rate of postoperative complications was homogeneous between the two groups.

Conclusions

Postero-lateral parametrectomy for DIE, although performed using a nerve-sparing approach, was associated to a slight increase of post-operative urinary retention, and a higher incidence of dyspareunia and post-operative sexual dysfunction.

Creation of neovagina in Rokitansky syndrome: vagino-laparoscopic Davidov technique

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Background

MRKH syndrome is the most common cause of vaginal agenesis. Affected individuals have absence of the vagina and uterus, with 46XX karyotype, functional ovaries and the development of normal secondary sexual characteristics. Because these individuals are phenotypically normal, diagnosis is delayed until adolescence, when primary amenorrhea is noted. Management is challenging because confirmation of the diagnosis has a substantial effect on the patient's sense of femininity. Many reconstructive techniques for vaginal agenesis have been described, including vaginal dilators, skin-covered molds, sigmoid grafts, and vulval and muscle flaps. All of these techniques aim to produce a vagina of normal axis, secretory capacity, and length. We report a vagino-laparoscopic Davydov's operation that uses peritoneum to line the newly dissected vesicorectal space.

Methods

In this study, 9 patients with MRKH syndrome in a private referral center underwent Davydov's creation of a neovagina, which involves a laparoscopic and vaginal approach. During the laparoscopic step, the strand that connects the rudimentary uterine horns is lifted, and the peritoneum immediately below is incised transversely for a section of 4–5 cm. Guided by the tube, which is inserted in the patient's rectum, this incision is extended in a horseshoe shaped fashion for approximately 1 cm into the connective tissue beneath, which separates the bladder from the rectum, mobilize the peritoneum, which will constitute the neovaginal walls and vault. Round ligaments are identified by applying traction on the uterine remnants and then are cut bilaterally. The supravescical peritoneum is incised along the apparent line that connects the rudiments. The perineal step allows creation of an anastomosis between the previously incised pelvic peritoneum and the mucosa of the vaginal vestibulum. An H-shaped incision is made on the vaginal vestibulum, with a transverse cut from the base of 1 minor labia to the contralateral and 2 vertical cuts that run adjacent to the extremities of the transverse incision. The surgeon works by blunt and sharp dissection until the peritoneal margins of the laparoscopically performed transverse incision are identified. The peritoneal margins are then hooked by interrupted sutures to the vestibulum's mucosa.

Results

The mean operative time was 117.2 ± 35.3 min. The mean length of the neovagina was 8.3 ± 1.1 cm (range, 6 to 11 cm) without any shrinkage at the follow after operation. The neovaginal introitus admitted two fingers in width in all patients. There was no statistical difference in the total FSFI between the case and control groups.

Conclusions

Laparoscopic Davydov is a safe, effective treatment of MRKH syndrome with minimally invasive surgery and a relatively low complication rate. This technique offers advantages such as: short operating time and hospital stay, no particular instrumentation required and no external scars. The procedure has satisfactory anatomical and functional results.

Surgical and functional impact of nerve sparing radical hysterectomy from a dual perspective: deep infiltrative endometriosis and early stage cervical cancer

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Background

Deep infiltrative endometriosis (DIE) is a common non-malignant gynaecologic disease that usually creates a distortion of the retroperitoneal anatomy infiltrating the parametria in about 17% of cases with an oncomimetic pathway, similar to that which occurs in cervical cancer. This condition is correlated with more severe manifestations of the disease as ureteral stenosis, bladder emptying disorders and constipation, mainly due to the involvement of the inferior hypogastric plexus. This condition may therefore require a more extensive surgical resection and consequently is associated with a risk of neurogenic postoperative pelvic organ dysfunctions, as it happens in radical hysterectomy for cervical cancer. The aim of our study is to compare the laparoscopic nerve sparing radical hysterectomy for early stage cervical cancer (NSRHCC) and for DIE, in term of post-operative complications and pelvic organs vegetative dysfunctions.

Methods

During the study period 23 patients who met the inclusion criteria were enrolled and submitted to radical hysterectomy for DIE. Maintaining a ratio of 1:1, an equal number of matched women who underwent to laparoscopic radical hysterectomy for early stage cervical cancer were singled out to serve as control group. The severity of pain symptoms were assessed by Visual Analogue Scale (VAS) score. Informations about functional outcomes were acquired through the application of questionnaires: the KESS, GQLI, BFLUTS and FSFI questionnaires. All patients were operated by surgeons with a wide and recognized experience in nerve-sparing radical hysterectomy with parametrectomy. Intra and post-operative complications were recorded.

Results

Dysfunctions in the pre-operative period were evidently worse in patients with DIE compared with those with cervical cancer in terms of: dyschezia ($p = 0.004$), dyspareunia ($p = 0.003$), chronic pelvic pain ($p = 0.01$), KESS ($p = 0.0001$), GIQLI ($p = 0.001$), and FSFI ($p = 0.047$). The postoperative comparison between the two groups reveals that both symptoms and questionnaire values were statistically overlapping (dyschezia $p = 0.387$, dysuria $p = 0.476$, dyspareunia $p = 0.903$, CPP $p = 0.444$, KESS $p = 0.117$, GQLI $p = 0.912$, FSFI $p = 0.396$, BFLUTS $p = 0.087$). No differences were reported between the two groups in term of post-operative fever, blood loss, bladder voiding deficit and operative time.

Conclusions

The radical hysterectomy for DIE, following our technique, is associated with an improvement of the pre-operative symptoms, and with a better functional outcome compared to radical hysterectomy for cervical cancer. But despite the nerve-sparing approach, both procedures may lead to a risk of post-operative urinary dysfunction, also when performed by experienced surgeon.

Is laparoscopic emergency cervicoisthmus cerclage in second trimester of pregnancy a treatment option? Outcomes of a case series report

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Background

The aim of this study was to evaluate the feasibility and safety of Laparoscopic emergency cervicoisthmus cerclage in second trimester of pregnancy.

Methods

Between November 2015 and March 2019 5 patients underwent laparoscopic emergency cervicoisthmus cerclage. All women had showed cervical insufficiency with dilation in the second trimester due to extensive conisation (3 patients) or re-conisation (2 patients) and failed transvaginal cerclage (5 patients) due to a short vaginal cervix. Patients' characteristics were obtained from hospital's medical record and we evaluated surgical data, intra, postoperative complications, and perinatal outcome. All operations were performed by the same surgeon.

Results

The average operation time was 88 min (ranging from 80 to 95 minutes), the average estimated blood loss during the procedure was less than 100 mL and there were no perioperative or postoperative complications. The mean gestational age at surgery was 14.4 (ranging from 14.2 to 16) weeks. All women underwent an elective CS after 38 weeks of gestation. The overall pregnancy survival rate was 100 %, the mean gestational age at delivery was 38.1 weeks (ranging from 38.0 to 38.5 weeks) and the mean birth weight was 3190 g (g) (ranging from 2980 g to 3350 g).

Conclusions

Laparoscopic cervicoisthmus cerclage might be an alternative approach even in the early second trimester of pregnancy. Our study's success rates compare favourably to the laparotomy approach and the laparoscopic cervicoisthmus cerclage showed a relatively high success rate in women who are at risk of poor obstetric outcomes. Of course, the surgeon's experience and competence plays a key role and this approach should only be attempted in well-organized units.

Prediction models in gynaecology: Transparent reporting needed for clinical application

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Background

The clinical application of prediction models is increasing within the field of gynaecology and obstetrics. This is mostly due to the fact that clinicians and patients prefer individualized counselling and person specific, more objective outcome assessment. To prevent using inadequate models, it is important to construct and perform prediction model studies correctly. Therefore, the TRIPOD statement (the Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis) was developed. The aim of this review is to obtain an overview of the existing published prediction models for benign gynaecology and to investigate to what extent these studies meet the TRIPOD criteria

Methods

We performed a literature search in the databases PubMed, Embase and Cochrane Library from inception to August 2020. Searching the cross-references of the relevant studies within our search identified additional articles. Publications were included if the aim of the study was to develop a multivariable prediction model within the field of benign gynaecology. Two independent reviewers extracted the data. Analysis of the studies was performed by using a checklist derived from the TRIPOD criteria.

Results

Based on our search, 2487 studies were selected, including potential duplications. Eventually, a total of twenty-two studies were selected. 91% of these studies handled their predictors by univariable analysis before developing a multivariable prediction model. Fifteen studies described having missing data, but not all of them (9%) handled these missing data. Four different internal validation methods were used in twenty studies. Fifteen studies (68%) had prediction models with a C-index ≥ 0.7 , which indicates a good model. Half of the studies (50%) did not measure the calibration, overall performance was described in two studies (9%). External validation was performed in 9% of the studies.

Conclusions

The correct development of a prediction model within benign gynaecology and subsequent transparent reporting of the model development is important to facilitate correct clinical use. Without transparent reporting, mistakes could be made in assumptions, leading to incorrect application of a specific prediction model. This overview shows that after reviewing these studies according to TRIPOD, only one article met all the criteria. Therefore, we strongly recommend use of the TRIPOD criteria for developing and validating a prediction model (study). In addition, prior to publication, content experts should critically and statistically review the prediction model. If too many criteria are not met, refusing publication should be considered.

Is vaginal repair a good option for severe caesarean scar defect? Comparison of women with or without residual myometrium

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Background

Vaginal surgery is an option for symptomatic women with caesarean scar defect. The aim of this study was to evaluate its efficacy for women with non-severe and severe defects.

Methods

This retrospective cohort study included consecutive women who underwent vaginal surgery for symptomatic cesarean scar defect between 2014 and 2019. Efficacy of vaginal surgery was compared between women with a non-severe defect (with residual myometrium), group 1, versus women with a severe defect (without residual myometrium), group 2. The main objective was the variation in residual myometrium. The secondary objectives were the comparison of symptoms before and after surgery, the operative and postoperative course, and the rate of subsequent pregnancy and live birth.

Results

Fifty-three women were included (33 in group 1 and 20 in group 2). After vaginal surgery, the residual myometrium was increased in both groups ($p < 0.01$) without any significant difference ($+4.4 \pm 2.2$ mm in group 1 and $+4.1 \pm 2.3$ mm in group 2 ($p = 0.63$)).

After vaginal surgery, prevalence of abnormal uterine bleeding was reduced in both groups ($p < 0.01$) without any significant difference ($p = 0.62$). For pain, a reduction was reported in group 2 ($p < 0.01$) but not in group 1 ($p = 0.10$) without any significant difference ($p = 0.71$).

Other variables were not different between groups: complication rate (12.1% group 1 vs 20% group 2, $p = 0.51$), rate of second procedure (24.2% group 1 vs 5% group 2, $p = 0.08$), mean length of surgery (48 min group 1 vs 42 min group 2, $p = 0.06$), pregnancy rate (68.2% group 1 vs 77% group 2, $p = 0.38$), live birth rate (50% group 1 vs 61.5% group 2, $p = 0.11$) and time to conceive (12 months group 1 vs 6.8 months group 2, $p = 0.82$).

For surgical outcomes, the absence of difference might be due to an insufficient power of the study.

Conclusions

Vaginal surgery seems to be as effective for severe and non-severe cesarean scar defect in increasing residual myometrium but also to relieve symptoms and to improve fertility.

Essure related symptoms, a nationwide, multicenter prospective cohort study

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Background

Over the last years, the Essure (Bayer AG, Leverkusen Germany) hysteroscopic sterilization method has been much discussed. Increasing numbers of patients worldwide requested surgical removal of the devices due to reported symptoms. There still is limited data available regarding the effect of removal surgery on the reported complaints and patient satisfaction. The aim of this study was to analyze the effect of Essure removal surgery on reported symptoms and quality of life.

Methods

In this prospective nationwide cohort study, women who presented with Essure related symptoms, were included. Both patients who requested removal surgery as patients who refrained from surgery were included. Participating patients were asked to fill out questionnaires at their first clinic visit and 3 and 12 months after removal surgery. Patients who did not undergo removal surgery were asked to fill in a questionnaire 4 and 12 months after their first clinic visit. Questionnaires included questions regarding patient characteristics, reported complaints, Essure placement procedure and quality of life (using SF-36). Also, participating gynecologist were asked to fill out a questionnaire regarding physical examination, ultrasound findings and regarding the surgical procedure.

Results

1323 patients in 32 hospitals were included in the period between March 2016 and April 2019. In 1262 patients Essure devices were surgically removed. Mean age was 42,9 years (range 25-63 years). Most frequent reported symptoms were mood swings (74,2%), fatigue (70,8%), cycle changes (68,1%) pain in hips/legs/groins (67,3%) and abdominal pain (61,9%). Essure devices were predominantly removed by laparoscopic salpingectomy (90,7%). Reported complaints did not differ between the two groups. Mean follow-up time was 16,71 months (range 2-52). Twelve months after removal surgery all reported symptoms significantly improved. In the no surgery group most reported symptoms remained present after twelve months, except for mood swings, intermenstrual bleeding, heavy menstrual bleeding, itch and abdominal distention. The reported quality of life at baseline was significantly different between the surgery and the no surgery group in six out of nine domains of the quality of life (SF-36) questionnaire. Twelve months after removal surgery, quality of life improved significantly on all nine domains in the surgery group. In the no surgery group quality of life significantly improved in six out of nine domains. The improved domains were physical and social functioning, role physical, role emotional, bodily pain and health transition.

Conclusions

Essure removal surgery has a significant effect on reported complaints and quality of life. Patients who present with Essure related symptoms, should be offered Essure removal surgery, after considering the patient specific risks for surgery. Although data regarding patients who experience symptoms but decide to refrain from surgery after careful counseling is scarce, our limited data shows also improvement in some of the reported symptoms and quality of life domains.

**ES30-0267 -
Laparoscopic surgery**

Discharge on the same day after laparoscopic hysterectomy, before COVID and after it. Is it time to begin?

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Background

To estimate the acceptance of the patients to be discharged home the same day after laparoscopic hysterectomy in a university center in Germany.

Methods

This was a prospective pilot study comparing the acceptance of the patients to be discharged on the same day of operation. The acceptance and expectation of the patients about the discharge on the same day has been compared before and after COVID Pandemic crisis. The two hysterectomy groups were compared using χ^2 tests for categorical variables and t tests or Wilcoxon rank-sum tests for continuously measured variables. The patients were interviewed from the surgeon 3 hours, 10 days and 6 Months after the operation. All the mentioned points have been registered prospectively.

Results

There were 176 consecutive patients with laparoscopic hysterectomy from one surgeon during the 3-year (2018-2021) study period. Ninety five patients were ready to leave the hospital (for 55 patient the decision/suggestion of the surgeon and in 40 patients the availability of the surgeon during the 2 days after the operation was important). The acceptance to be discharged on the same day was higher after COVID pandemic situation ($P<0.05$). Eighty one patients refused the discharge on the same day (49 patients because of the history of previous surgeries or 22 patients because of the co-morbidities or no support at home).

Conclusions

Same-day discharge after laparoscopic hysterectomy is associated with the availability of the surgeons after the discharge. After COVID pandemic situation, discharge on the same day is more acceptable for the patients.

**ES30-0268 -
Technical innovation in minimal invasive surgery**

Consent during Covid time

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Background

The aim of the study was to facilitate pre-operative consent prior to major surgery whilst patients were isolating beforehand due to the risk of major surgery if exposed to Covid

Methods

In June 2020 benign gynaecology at University Hospital of Wales was suddenly offered surgical capacity at Spire Hospital Cardiff. Patients had very little notice to begin self-isolation for 14 days prior to surgery.

After very rapid governance approval a pre-pilot project was arranged.

Concentric Health's remote consent software and Zoom video-conferencing were utilised to enable women to be fully informed regarding the nature of their surgery, alternative treatments, risks of complications, and given access to on-line information leaflets regarding their condition and expectations of surgery. The software allows the clinician to set up the form using easy menus and the form is discussed with the patient via screen sharing on Zoom.

A link to the software is then emailed to the patient who logs on and explores the form and embedded materials. When she is ready, she confirms she wishes to consent and writes her signature on her phone. The clinician then prints off a signed consent form to file in the notes with a traditional paper form signed on the day of surgery. Alternatively organisations can rely on the on-line storage after the clinician has confirmed consent on the day of surgery. Patient feedback is collected via a voluntary on-line form if the patient wishes to leave comments.

Results

Between 22 Jun 2020 - 15th May 2021

Ninety seven consents - 100% remote and shared digitally with patients. None consented on the day of surgery

Top 3 procedures:

- Laparoscopic excision of pelvic endometriosis (n=52)
- Hysteroscopy +/- transcervical resection of endometrial pathology (n=12)
- Total laparoscopic hysterectomy (n=6)

Patient feedback: All positive

Conclusions

Concentric's evolving consent platform facilitates consent in advance of surgery in an efficient manner with many positive benefits for women and clinicians. The patients particularly value the opportunity to browse the embedded materials and discuss the risks and benefits with their family well before the day of surgery.

A retrospective single-centre analysis of sentinel lymph-node biopsy in robotic-assisted laparoscopic surgery for early stage endometrial cancer

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Background

Sentinel lymph-node (SLN) biopsy performed with cervical injection of indocyanine green is now considered a standard technique in staging of low and intermediate-risk endometrial cancer. Moreover, SLN biopsy is considered as a feasible alternative to bilateral systemic lymphadenectomy in selected cases of intermediate-high and high risk early stage endometrial cancer. The aim of this study was to retrospectively analyse our 5-year single centre experience using SLN with indocyanine green in a minimally invasive robotic-assisted laparoscopic approach.

Methods

A total of 23 patients with early stage endometrial cancer underwent robotic-assisted laparoscopic SLN with cervical injection of indocyanine green (Da Vinci Xi Surgical System). We retrospectively evaluated surgical outcome and 3- and 5-year clinical outcome.

Results

At least one SLN was identified in 18 patients for a detection rate of 78.26%; bilateral detection was obtained in 14 patients (60.9%). In 4/23 patients (17.4%) no SLN biopsy was achieved. We compared a first group of 11 patients at intermediate to high-risk endometrial cancer who underwent SLN biopsy and subsequent pelvic lymphadenectomy to a second group of 12 patients with low-risk endometrial cancer who underwent to SLN biopsy only. We observe a statistically significant difference in the average operative time and the hospitalization length.

Conclusions

Performing SLN for surgical staging of early stage endometrial cancer is associated to a high detection rate, lower risk intraoperative or postoperative complications, and shorter operative time and hospitalization.

The effect of suture materials with different absorption times on isthmocele

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Background

With the increasing rate of cesarean operations, the formation of niches and related early and late complications have been observed more frequently(1).

Prompt removal of sutures reduce the risk of suture marks, infection, and tissue reaction (2). Therefore, rapid absorption of suture materials may cause the cesarean scar incision to heal faster, leading to less isthmocele space in the myometrium. However, there have been no reports on this subject. For this reason, we examined the effect of suture materials on the healing of the uterine wall and the formation of niches in the repair of a cesarean section incision using a polyglactin multifilament suture material (Rapide Vicryl®), which has a faster absorption time than the conventionally used polyglactin multifilament suture material (Vicryl®).

Methods

This study was designed as a retrospective study and completed with a total of 101 patients. During the cesarean operation, the uterus was closed with Rapide Vicryl® in 49 patients and Vicryl® in 52 patients. The uterine niche was measured with a sonohysterogram 6 months after the operation. The primary outcome of the study was determined as uterine niche formation and the secondary outcome was the post-menstrual spotting (PMS) rate. An informed consent has been taken from all patients.

Results

No differences were observed between the two groups in terms of duration of surgery, blood loss during/after surgery, and hospitalization. Niche formation was significantly less in the Rapide Vicryl group (22.44%) than in the Vicryl group (42.3%) ($p = 0.046$). PMS was significantly less in the Rapide Vicryl group (16.2%) than in the Vicryl® group (52.8%) ($p = 0.002$).

Conclusions

In this retrospective trial, we showed that the Rapide Vicryl suture, which can be absorbed faster during the uterine closure phase, creates less space in niches than the conventionally used Vicryl suture. In our study in which niche formation was considered as 2 mm and greater, the niche formation was significantly lower with Rapide Vicryl. The frequency of PMS, a secondary outcome of this study, was significantly less in the Rapide Vicryl group compared with the Vicryl group.

Suture material is a foreign body implanted into human tissue; thus, triggering a foreign-body tissue reaction. Therefore, using a rapidly absorbed suture rather than conventional sutures may lead to less tensile strength and less tenting in the endometrium and myometrium that can allow wound sides can come together more quickly. We demonstrated that a different suture material can be absorbed more quickly to reduce post-cesarean niche formation and related PMS rates. Following this study, we aim to find the least amount of niche formation by closing the uterus with different surgical techniques using rapidly absorbing suture materials to prevent, rather than treat, this pathology.

Embryofetoscopy, a useful technique in case of recurrent miscarriages: a case series

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Background

To analyze the value of embryofetoscopy as a diagnostic tool for the cytogenetic evaluation of the embryo in women with diagnosed miscarriage, in order to improve our knowledge on the causes of recurrent abortions.

Methods

Women undergoing evacuation of products of conception for documented first trimester miscarriage, with at least two previous miscarriages, were included in the study.

All hysteroscopies were performed at University of Naples, Federico II, with a vaginoscopic approach and continuous flow hysteroscopes with a foreblique view and an operating 5 Fr channel. Normal saline was used as a distension media. Selective biopsies of the embryo and chorionic villi were collected with the hysteroscopic "grasp biopsy" technique and directly placed in the appropriate culture medium. Molecular cytogenetic data were obtained by the embryoscopic tissue sampling, using standard G-banding cytogenetic techniques.

Results

A total of 15 procedures were performed, mean patient age was 38 (range 31–42) years. All the embryoscopic biopsies were adequate for chromosomal analysis. No hysteroscopic complications were observed. Chromosomal aberrations were identified in 80 % (12 /15) of miscarriages. In 92% (11/12) of cases alterations are trisomies of chromosomes. The mean female age was significantly higher for trisomy 15 (40 y.o.) and trisomy 20 (41 y.o.). All embryofetoscopies followed by blind suction curettage, except one, where once the entire embryo was taken with the grasp, the gestational sac was removed by means of a tissue removal device.

Conclusions

Our preliminary data demonstrated that embryofetoscopy performed with a 5-mm operative hysteroscope, thanks to the direct visualization of the embryo in vivo, allows selective sampling of embryonic tissue with a minimal potential for maternal contamination. Followed by Fetal Chromosome Detection the procedure result in a safe and effective diagnostic tool for early and recurrent miscarriages. The study also confirmed that Chromosomal aberrations are lethal genomic mutations, so embryofetoscopy is important to identify the possible risk of recurrence in future pregnancies.

Outcomes of clitoral reconstructive surgery after Female Genital Mutilation/Cutting (FGM/C): 10 years' experience in the Netherlands

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Background

As a result of the empowerment of migrated women from Africa and the Middle East, the awareness and demand for clitoral reconstructive surgery after Female Genital Mutilation/Cutting (FGM/C) is increasing. We present our ten years of experience and the outcomes of this surgery in 45 cases.

Methods

From January 2010 until January 2021, 72 women presented with FGM/C. All underwent well-specified patient selection before operation. Clitoroplasty, according to the Foldès technique, was performed after counseling. These patients were followed up for 13 months. A questionnaire was used for outcome evaluation of the surgery.

Results

19 out of 72 women (26%) were not suited for clitoral reconstructive surgery because they had comorbidities that had to be dealt with first (n = 5) or had unrealistic expectations about the outcome of surgery (n = 12) or only wanted information about the procedure (n = 2). One woman chose to have only her Bartholin cyst treated after preoperative consultation. One referral was a secondary case. Up to January 2021, 45 patients have been operated on, and six patients are on the waiting list. Primary clitoroplasty was performed on the remaining 45 women. Postoperatively, we observed four minor postoperative complications. 35 of these 45 women were fully satisfied with the surgery and had better self-esteem after surgery (76%). Four women were disappointed with the esthetic outcome but still were satisfied to have undergone surgery. The six remaining women were lost for follow-up.

Conclusions

Clitoral reconstructive surgery after well-specified preoperative patient selection leads to a high patient satisfaction with minor surgical complications. This minor surgery in case of wish for clitoral reconstruction can be acknowledged after careful counseling.

**ES30-0276 -
Technical innovation in minimal invasive surgery**

District perspective on laparoscopic versus robotic assisted hysterectomy

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Background

Hysterectomy remains one of the most common gynaecological procedure for uterine diseases. Minimally invasive hysterectomy in recent times has become increasingly popular compared to traditional open techniques. Laparoscopic surgery is limited by 2-dimensional vision, incomplete articulation of movement and ergonomic restrictions which led to the development of robotic surgery.

Robotic-assisted surgery offers high resolution 3-dimensional vision, increased surgical dexterity, and better ergonomics. In addition, it has been demonstrated to be safe and effective in gynaecological surgery. However, it is associated with significant cost implications in comparison to laparoscopic technique.

This study aims to determine the clinical outcomes following a robotic-assisted or a laparoscopic hysterectomy.

Methods

A retrospective analysis of all women who underwent a robotic-assisted or a laparoscopic hysterectomy between December 2018 to December 2020 at Northwick Park Hospital, London North West University Healthcare NHS Trust. All patient notes were reviewed and analysed using SPSS.

Results

The total number of hysterectomies was 62 (26 robotic-assisted, 36 laparoscopic). There was no significant difference in age (mean age: robotic-assisted 56, laparoscopic 52), co-morbidities, previous surgery or indications for surgery between the two cohorts ($p > 0.05$). Average time of surgery for robotic-assisted was 125 minutes (range 57 – 193 minutes) and laparoscopic was 118 minutes (range 60 – 180 minutes) ($p = 0.64$).

The average estimated blood loss was 166 ml in both robotic-assisted (range 20 – 800 ml) and laparoscopic approach (range 30 – 700 ml) ($p = 0.96$). Complications arose in 11.5% of robotic-assisted ($n = 3$) which was significantly higher compared with 8.3% in laparoscopic surgery ($n = 3$) with infection identified as the most common cause ($p = 0.69$). Both groups had comparable rates in length of stay and conversion to laparotomy ($p > 0.05$).

Conclusions

Robotic-assisted laparoscopic hysterectomy (RALH) is a safe and feasible approach with low morbidity, similar blood loss and length of stay as total laparoscopic hysterectomy. RALH is associated with a slightly longer mean operation time (7 minutes) which may improve with a consistent experienced team. Future studies into long term outcomes, quality of life and economic outcomes are required to further establish the role of RALH in gynaecological diseases.

Association between endometrial polyps and chronic endometritis: a systematic review

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Background

Chronic endometritis (CE) is the chronic inflammation of the endometrium accompanied by only mild and unspecific disturbances which may cause abnormal uterine bleeding (AUB), pain and reproductive failures. The pathogenesis of CE seems to be related to a qualitative and quantitative alteration of endometrial microbioma. It is characterized by the infiltration of plasmacells in the endometrial lining. Immunohistochemistry (IHC) for CD138 represents the current gold standard for the diagnosis of CE. Fluid hysteroscopy is a reliable technique for diagnosing this pathology as it shows subtle endometrial abnormalities like hyperemia, polypoid appearance and mycropolyps. The correlation between endometrial polyps (EPs) and CE remains unclear. The etiopathogenesis of EPs has long been considered as a result of estrogen-sensitive conditions. Nevertheless, a possible link between EPs and nonhormonal triggers cannot be excluded. In particular, recent studies have shown that an abnormal expression of "local" paracrine inflammatory mediators may enhance the proliferation of endometrial mucosa, raising the hypothesis that chronic endometrial inflammation may play a role in the pathogenesis of EPs. In addition, EPs are often immunoreactive for CD-138.

Methods

We searched electronic databases in order to collect original articles that evaluated the association between chronic endometritis and endometrial polyps. These were fully scanned from their inception until April 31st 2021 and used to create a summary pathway which explains the role of chronic inflammation in the endometrial lining on the development of endometrial polyps.

Results

After full text screening, 3 studies were included. CE was detected with multiple EP at a higher rate than nonpolypoid endometrium. Chronic inflammation resulting from CE may have implications on the function of proinflammatory cytokines which can affect migration, proliferation, and apoptosis of endometrial cells. It also has been proposed that vascular changes in the endometrium of infertile women might present an evolving stage of vasculopathy that is related to CE.

Conclusions

Endometrial polyps are positively associated with CE among reproductive-aged women, suggesting a possible etiopathogenetic link between chronic inflammation and EPs.

The association between chronic endometritis and endometriosis: a systematic review

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Background

Chronic endometritis (CE) and endometriosis are chronic inflammatory diseases of the pelvic area with some common characteristics. Both conditions are characterized by the presence of abnormal immune cells in the endometrium, altered secretion of cytokines and chemokines, increased neurogenesis and angiogenesis, pain and impaired reproductive capacity. Some authors identified an increased risk of endometriosis in patients with CE, but a pathophysiological explanation assembling all the studies performed has not been elucidated yet. For this reason, we have structured a systematic review considering all the original articles that evaluated the association between CE and endometriosis.

Methods

We conducted a systematic review of all studies evaluating any correlations between CE and endometriosis. Electronic databases were searched from their inception until April 30th, 2021.

Results

After full text screening, five studies were included. Existing literature showed that the prevalence of CE was generally higher in women with endometriosis as compared with the controls. Moreover, one study observed that the number of mild and intermediate/severe cases of CE was statistically significantly higher in women with endometriosis than in those without this pathology. One work demonstrated that genital tract inflammation/infections increase the risk of endometriosis. Another study demonstrates that the immune cell populations of uterine natural killer cells (uNK) and plasma cells (PC) which define chronic endometritis differ in patients with or without endometriosis, so the CE seems to be an above-average frequent concomitant of endometriosis. The correlation between the two conditions may be due to altered uterine contractility. In CE the uterine contractile pattern is characterized by a decrease in the anterograde subendometrial contractions present during menses, which thus facilitates retrograde reflux of menstrual bleeding through the fallopian tubes. In this way, CE may represent a facilitating factor for the development of endometriosis.

Conclusions

The prevalence of CE was higher in women with endometriosis. Whilst a causal relationship between these two conditions cannot still be inferred, a thorough understanding of their pathophysiological connections could open a new chapter of investigations and therapeutic options for women suffering from these debilitating disorders.

Hysteroscopic metroplasty for septate uterus: a retrospective bicentric study involving 519 women

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Background

Women with a septate uterus have an increased risk of infertility and impair outcomes. Hysteroscopic metroplasty is a well-described procedure. The need for metroplasty is however controversial. A recent study concluded that metroplasty didn't improve reproductive outcomes and lead to less chance of ongoing pregnancy than expectant management. Aim of this study is then to evaluate reproductive outcomes and risks of hysteroscopic metroplasty in women of reproductive age.

Methods

We performed a retrospective bicentric study in the gynaecologic unit of two teaching hospitals with expertise in hysteroscopy. Consecutive women who underwent hysteroscopic metroplasty between 2009 and 2019 were included. Pregnancy outcomes were compared before and after hysteroscopic metroplasty.

Results

A total of 519 women were included; 170 were lost to follow-up and 85 didn't try to get pregnant after surgery. Among the 107 women with history of infertility, 74/107 women (69.2%) got pregnant after metroplasty (41.9% after assisted reproductive technology (31/74)) and 77% of them had live birth (57/74). For pregnancy loss, the rate of women with at least one pregnancy loss was 44.7% (118/264) before versus 14.8% after metroplasty (39/264). For live birth, 13.6% of women (36/264) had a live birth before versus 80.6% (174/264) after. One uterine rupture at the subsequent pregnancy was reported with a per-partum death of the child (0.4%). Our results are concordant with previous published studies. The before/after design is not optimal but it is questionable whether it would be possible to perform a randomized trial today.

Conclusions

Hysteroscopic metroplasty in women of reproductive age with a septate uterus seems to improve reproductive outcomes.

Accuracy and reliability of MUM-1 immunostaining for the identification of endometrial plasma cells in chronic endometritis: head to head comparison with CD-138. A multi-centre study

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Background

The current gold standard for chronic endometritis (CE) diagnosis is immunohistochemistry (IHC) for CD-138. However, IHC for CD-138 is not exempt from diagnostic limitations. The aim of this multicentre, retrospective, observational study was to evaluate the reliability and accuracy of MUM-1 IHC, as compared with CD-138, for the diagnosis of CE.

Methods

This study was carried out in three tertiary hysteroscopic centers in university teaching hospitals. 193 consecutive women of reproductive age referring to our hysteroscopy services due to infertility, recurrent miscarriage, abnormal uterine bleeding, endometrial polyps or myomas underwent hysteroscopy plus endometrial biopsy. Endometrial samples were analysed through histology, CD138 and MUM-1 IHC. In a subset of patients, the number of immunoreactive cells was counted by three pathologists independently, and results of CD-138 and MUM-1 IHC were compared.

Primary outcome was to evaluate the diagnostic accuracy of MUM-1 IHC for CE, as compared with CD-138 IHC. Secondary outcome was to assess the reliability of MUM-1 IHC as compared with CD-138 IHC for the detection of plasma cells.

Results

Sensitivity and specificity of CD-138 and MUM-1 IHC were respectively 85.9%, 93.5% versus 89.7% and 88.7%. The overall diagnostic accuracy of MUM-1 and CD-138 IHC were similar (AUC= 0.892 vs AUC=0.898). The intercorrelation coefficient for single measurements was high between the two techniques (ICC=0.831, 0.761-0.881 95%CI). However, among CE positive women, MUM-1 allowed the identification of higher number of plasma cells/hpf than CD-138 (5.76 [SD 4.77] vs 4.66 [SD 3.51]; p=0.026). Additionally, MUM-1 showed higher inter-observer agreement as compared to CD-138 (ICC=0.902 [0.843-0.943, 95% CI] versus ICC=0.809 [0.712-0.881, 95% CI]).

Conclusions

IHC for MUM-1 and CD-138 showed similar accuracy for detecting endometrial stromal plasma cells. Notably, MUM-1 showed higher reliability in the paired comparison of the individual samples than CD-138. Thus, MUM-1 may represent a novel, promising alternative to CD-138 for the diagnosis of CE.

**ES30-0284 -
Fibroids, including morcellation OR tissue extraction**

The (cost) effectiveness of procedural sedation and analgesia versus general anaesthesia for hysteroscopic myomectomy, a multicenter randomised controlled trial: prosecco trial

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Background

In women with abnormal uterine bleeding, fibroids are a frequent finding. In case of heavy menstrual bleeding and presence of submucosal type 0 – 1 fibroids, hysteroscopic resection is the treatment of first choice, as removal of these fibroids is highly effective. Over the last decade, there has been a trend in moving gynaecologic surgery from a clinical setting with general anaesthesia to an outpatient setting with procedural sedation and analgesia. However, both safety and effectiveness – including the necessity for re-intervention due to incomplete resection – have not yet been thoroughly evaluated for hysteroscopic myomectomy with procedural sedation and analgesia.

Methods

This was a multicenter, randomised controlled trial with a noninferiority design. Women aged 18 years or older, with a maximum number of 3 type 0 or 1 fibroids, with a maximum diameter of 3.5 cm, American Society of Anaesthesiologists (ASA) class 1 or 2 and with sufficient knowledge of the Dutch or English language were included. Women with clotting disorders or the presence of severe anemia (Hb < 5.0 mmol/L) were excluded. Women were randomly allocated to hysteroscopic myomectomy under procedural sedation and analgesia with propofol in an outpatient setting or hysteroscopic myomectomy using general anaesthesia in a clinical setting in the operating theatre. Primary outcome was the percentage of complete resections, based on transvaginal ultrasonography 6 weeks postoperatively. Complete resection meant that there were no signs of an intracavitary remnant of the fibroid (s) resected during hysteroscopic myomectomy. Secondary outcomes were cost effectiveness, menstrual blood loss (pictorial blood assessment chart), quality of life, uterine fibroids symptoms and related quality of life, pain, return to daily activities/work, hospitalization, (post)operative complications and re-interventions. Women were followed up to one year after hysteroscopic myomectomy.

Results

This trial was performed in fourteen hospitals in the Netherlands. A total number of 256 women were registered as eligible for this trial, of whom 209 women gave informed consent. Of these, 106 women were allocated to procedural sedation and analgesia and 103 women were allocated to general anaesthesia.

Conclusions

This multicenter, randomised controlled trial will answer the question whether hysteroscopic myomectomy under procedural sedation and analgesia with propofol is noninferior to hysteroscopic myomectomy performed with general anaesthesia.

Levonorgestrel-IUD alone for the management of early stage endometrial cancer patients unfit for surgery: the ultra-mis endo study

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Background

in the last decades minimally invasive surgery has been widely recognized as the gold standard approach in the management of early stage endometrial cancer. However, due to the progressive aging of female population, and the large diffusion of obesity, an increasing proportion of patients with early-stage endometrial cancer show relevant comorbidities, thus making surgery contraindicated. We present here, the results of the retrospective ULTRA-MIS-ENDO study aimed at clarifying for the first time the role of LNG-IUD alone in the management of early-stage endometrial cancer patients not suitable for surgery.

Methods

We retrospectively analyzed the clinical, and survival outcome of endometrial cancer patients with FIGO Stage I, admitted at the Gynaecologic Unit of the University of Sassari, judged unsuitable for surgery due to the presence of multiple severe comorbidities, and therefore triaged to receive LNG-IUD alone. Cause-specific survival, calculated using Kaplan-Meier analysis, has been considered as primary outcome. The control of vaginal bleeding, evaluated as maintenance of hemoglobin levels above 10 g/dl, was also analyzed.

Results

Between February 2012 and May 2019, 18 women were admitted to the Gynaecologic Unit of the University of Sassari, judged unsuitable for surgery, and triaged to receive LNG-IUD alone. All women were classified as having type I endometrial cancer, 14 patients (77.8%) showed G1 histology, and the remaining 5 women G2/3 endometrial cancer (22.2%). Fifteen patients (83.3%) showed FIGO Stage IA, and 3 women (16.7%) FIGO Stage IB tumor. Median age of the study population was 81 years (75-92 years), and median BMI was 39 (32-45). According to the American Society of Anaesthesiologists (ASA) physical status classification, 15 women (83.3%) were scored as ASA 4 (*patient has incapacitating disease that is a constant threat to life*), and median Charlson Comorbidity Index was 7 (5-10). In 14 patients (77.8%) a good control of vaginal bleeding was achieved and maintained during follow-up; in the remaining 4 cases (22.2%) hemoglobin levels dropped below 10 g/dl. With a median follow-up time of 64 months (24-108 months), one patient experienced progressive disease with peritoneal metastatic spread. No women died for disease. Four patients (22.2%) died due to other causes: heart failure, cerebral ischemia, respiratory failure, COVID-19 pneumonia. Median cause-specific survival was 34 months (24-68 months), with a median overall survival of 28 months (12-68 months).

Conclusions

LNG-IUD alone is a safe and effective approach showing no side effects, and a promising oncological outcome in women early-stage endometrial cancer patients. Future prospective studies are required to clarify whether LNG-IUD may be safely introduced in the management of fragile women unfit for surgery.

Surgery for retained products of conception

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Background

Retained products of conception (RPOC) may occur after medical and surgical pregnancy termination, miscarriage and vaginal or cesarean delivery. Complications of RPOC are important, short-term bleeding and infection, long-term formation of intra-uterine adhesion.

Our goal of this retrospective study was to evaluate the clinical factors of these patients with RPOC who underwent surgery (curettage, hysteroscopic removal) and to look to the complication rate of surgery, need for a second surgery and pregnancy-rate.

Methods

All the patients who underwent surgery for the removal of RPOC from January 2017 to January 2019 were included. The follow-up time was at least 4 months.

Results

A total of 63 patients had surgery for the removal of RPOC. A total of 41 (65%) was by hysteroscopic removal and 22 (35%) by curettage. The decision was made by the surgeon himself.

42 (67%) cases were after medical treatment for miscarriage with misoprostol. The other 21 (33%) cases were RPOC after delivery or surgical termination of pregnancy. The main symptoms of these patients were bleeding disorder, 92%. Symptoms of endometritis were present in 5 (8%) patients.

The clinical factors of the group of medical termination for miscarriage (n=42), a total of 15 (36%) patients had no bleeding at presentation, 17 (40%) had a diameter of the amniotic sac more than 3cm, 10 (24%) were nullipara, 17 (40%) had a history of miscarriage. Total of 23 (55%) of this group had 2 or more treatments with misoprostol. A total of 19 (45%) patients had an expectant care for a period of 1 month after the diagnosis of RPOC. In the latter there were no cases of endometritis.

Complications occurred in 4 (6%) cases, all of them were bleeding. There were no cases of incomplete removal. In 2 cases there was no confirmation of RPOC after examination of the removed tissue.

The pregnancy rate after the procedure is 64% (28/44). In 4 cases it ended in a miscarriage. A total of 19 (30%) started with contraception after the procedure.

Conclusions

We can say that hysteroscopic removal and curettage for RPOC are safe procedures with good results. There was no need for a second procedure and it gives a high number of pregnancies after the procedure.

Almost all cases of RPOC had bleeding disorders and risk of endometritis stays low.

It is still difficult to create a prediction model for RPOC and patients with miscarriage. We need to look and analyze the different factors and baseline characteristics in all misoprostol-cycles for miscarriage. A more tailored management like adding mifepristone or direct surgery could be offered in order to prevent RPOC.

Vaginal hysterectomy with opportunistic salpingectomy; a technical and sustainable approach

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Background

Vaginal hysterectomy rates are declining and introduction of the opportunistic salpingectomy has induced even a further rise of the laparoscopic approach. Growing in popularity as well, is the vNOTES hysterectomy which allows transvaginal endoscopic access to the uterus and adnexa. Nevertheless, the conventional vaginal hysterectomy is still considered the preferred approach to a benign hysterectomy, in terms of shorter operative time, lower rate of vaginal cuff dehiscence and lower costs. Moreover, concerning our environmental impact as healthcare providers, vaginal hysterectomy produces the least kilograms of waste in comparison to all other routes. We propose a technique for a safe and feasible salpingectomy during vaginal hysterectomy, in order to conserve the vaginal approach.

Methods

When surgical steps need to be pursued in the superior part of the pelvis during vaginal hysterectomy, and application or visualization of conventional vaginal instruments are deemed difficult, the use of an instrument designed for laparoscopic application may permit continuation of a vaginal approach. We provide a single-institution case series to assess feasibility and we evaluate sustainability.

Results

In literature, a failure rate of 18% is described for opportunistic salpingectomy during vaginal hysterectomy with the use of conventional vaginal instruments. This number could be reduced by the use of a laparoscopic coagulation instrument. In fact, laparoscopic bipolar scissors are an ideal candidate for performing a bilateral salpingectomy during a vaginal hysterectomy, by safely coagulating and cutting the mesosalpinx under direct vision.

Since 2016, we performed 12 vaginal hysterectomies with opportunistic salpingectomy at the Leiden University Medical Center in the Netherlands. Of these 12 procedures, the salpingectomy was carried out with application of laparoscopic bipolar scissors in 7 cases (58%). Bilateral salpingectomy was successful in all cases and no complications were observed.

Regarding sustainability in the operation room, research showed that laparoscopic hysterectomy produces 27% more kilograms of waste in comparison to vaginal hysterectomy (11.5 versus 9 kilograms, respectively). A vNOTES hysterectomy requires both conventional vaginal instruments and laparoscopic instruments, resulting in even more waste production. The same applies to a conversion of the vaginal route to an endoscopic approach, if salpingectomy cannot be successfully performed. From an environmental perspective, a break-even point is reached if more than 1 in 4 vaginal hysterectomies need to be converted. Taking the failure rate in literature into account (18%) and adding the opportunity to apply laparoscopic bipolar scissors to facilitate salpingectomy, the conversion rate is clearly more favorable than 1 in 4.

Conclusions

In vaginal hysterectomy, the application of laparoscopic bipolar scissors is safe and feasible to facilitate salpingectomy. It saves the patient, doctor and environment a more costly, less favorable and polluting laparoscopic approach. Before indulging in new industry driven hybrid techniques such as vNOTES, one should consider this new trick for an old dog.

Innovative protocol of assisted reproductive technology in women with levonorgestrel intrauterine system for fertility-sparing treatment of endometrial intraepithelial neoplasia

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Background

The aim of the study was to evaluate the safety and efficacy of an Assisted Reproductive Technology (ART) program based on controlled ovarian stimulation with Levonorgestrel Intrauterine System (LNG-IUS) *in situ* in women affected by endometrial intraepithelial neoplasia.

Methods

6 young women undergoing fertility-sparing treatment for FIGO IA G1 early endometrial cancer (EEC) or atypical endometrial hyperplasia (AEH), were enrolled from January 2019 to March 2021, and underwent ART program with Levonorgestrel Intrauterine System (LNG-IUS) *in situ*. Patient with focal EEC (n=1) was treated by hysteroscopic resection of the lesion according to Mazzone's technique; patients with AEH (n=5) were treated by superficial endometrial resection preserving the basal layer of the endometrium. LNG-IUD was inserted in all patients after surgery. Patients were followed with histological evaluation at 3 months by endometrial biopsy, until two subsequent negative biopsies were obtained. At this time, controlled ovarian stimulation was started, oocytes retrieval was performed, and mature oocytes were cryopreserved. After removal of LNG-IUS, embryo transfer procedure was performed. Rates of oocytes retrieved, mature frozen oocytes and pregnancies were assessed. Rates of response and recurrence were also evaluated.

Results

Out of 6 patients, 100% had a complete response and no subsequent relapse. Oocytes retrieved were 9.33 ± 2.28 (mean \pm SD); mature oocytes were 7.5 ± 1.89 (mean \pm SD). Embryo transfer was performed three months after the LNG-IUS removal. 4 pregnancies were obtained (66.67%), 2 (50%) of whom resulted in live birth, 1 (25%) is still ongoing, 1 (25%) resulted in a miscarriage in the first trimester. 2 patients (33.33%) experienced implantation failure and they are waiting for a further attempt.

Conclusions

The presence of LNG-IUS during controlled ovarian stimulation has no detrimental effects on ovarian quality, while allowing to balance the potentially dangerous effect of hyperestrogenism on the endometrium of patients affected by AEH or EEC, with promising results about pregnancy outcomes.

**ES30-0294 -
Fibroids, including morcellation OR tissue extraction**

**Laparoscopic management of parasitic fibroids following previous laparoscopic myomectomy and power morcellation:
Technical difficulties and surgical outcomes in a series of 4 patients**

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Background

Parasitic leiomyomas are characterized by the “ectopic” presence of a fibroid mass in the peritoneal cavity, in locations other than the genital tract. The condition, although rare, is now more frequently encountered after the broad use of power morcellation in laparoscopic procedures.

Methods

We describe a series of 4 patients diagnosed with parasitic leiomyomas as a consequence of previous power morcellation for laparoscopic myomectomy surgery (LPMS). Patients required re-operation either due to symptomatic recurrent uterine fibroids or due to the parasitic fibroids alone. The anatomic location of initial and parasitic leiomyomas, the technique for tissue extraction at primary surgery and the surgical outcomes at second surgery were addressed.

Results

Four (4) patients diagnosed with parasitic leiomyomas after previous LPMS were included with mean age 43.75 years (range 31-58). Leiomyomas at initial surgery were intramural in all cases with a mean diameter of 6.5 cm (range 5-9cm). Specimen extraction was performed with uncontained power morcellation. Review of the operations' recordings failed to identify any macroscopically obvious fragments disseminated in the peritoneal cavity. Meticulous washing and inspection of the abdominal cavity was routinely performed. Parasitic leiomyomas were located at the mesosigmoid (1/4), left paracolic fossa attached to the sigmoid (1/4), pararectal space (1/4) and abdominal wall parietal peritoneum (1/4). In two (2/4) cases, simultaneous uterine leiomyomas were present and removed during the procedure. Mean maximal diameter of the main parasitic lesions was 5.3 cm (range 4- 9.2cm). In three out of four cases (3/4), secondary lesions of 0.5- 1 cm were present at locations such as the Douglas pouch, the parietal abdominal peritoneum and the uterosacral ligaments. In one case resection of the mass from the sigmoid required reinforcement of the bowel wall with interrupted sutures. In another case the complete removal of a giant (9.2cm) parasitic leiomyoma of the abdominal wall, required extensive dissection of the mass from the bladder and reinforcement of the bladder wall with sutures. All specimens were morcellated within a bag. Mean operative time was 89.5min (range 45-120min) and mean blood loss 40ml (20-60ml). No postoperative complications were encountered. Mean follow-up was 8.5 months. Mean interval between the two surgeries was 11.2 years (4-21years).

Conclusions

Gynaecologic surgeons should be aware of the condition of parasitic leiomyomas on the grounds of previous LPMS. They may present several years after primary surgery and their laparoscopic management may be challenging, as they may involve significant structures such as the bowel or the bladder.

Hysteroscopic findings in women with recurrent pregnancy loss: five-year single-center experience

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Background

Recurrent pregnancy loss (RPL) is defined as two or more consecutive pregnancy losses. It affects 2-4% of couples. Aim of this study was to investigate the prevalence of abnormal hysteroscopic findings among women with RPL.

Methods

We retrospectively analysed 157 office hysteroscopies performed in patients referred to the Gemelli Hospital of Rome between 2015 and 2020 for primary RPL, in absence of any pregnancy at term.

Results

Normal hysteroscopic findings were reported in 83 women (52.9%). The other 75 (47.1%) were with abnormal hysteroscopy (single or multiple anomalies). Of these, the most common reported hysteroscopic abnormality was endometrial polyp (21.3%) followed by mullerian anomalies (11.5%), endometritis (8.3%), intrauterine adhesions (4.7%), intracavitary myomas (3.5%), endometrial atrophy (1.2%) and cervical canal stenosis (1.2%). Finally, among mullerian anomalies, 89% of cases were represented by uterine septum, partial (61%) or complete (27.8%), while in only 11% of cases a T-shaped uterus could be found.

Conclusions

Office hysteroscopy, that is part of routine work up in women with RPL, was able to detect uterine cavity anomalies in about 47% of our cases, of those at least 85% were eligible for endoscopic surgical treatment (endometrial polyps, mullerian anomalies, intrauterine adhesions and intracavitary myomas), potentially improving pregnancy outcome.

Laparoscopic management of myomectomy scar pregnancy following a cryopreserved embryo transfer

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Background

Myomectomy scar pregnancy (MSP), which is characterized by an implantation into the site of a myomectomy scar, is an extremely rare form of ectopic pregnancy (EP)

Methods

A 38-year-old nulligravida woman with previous history of transcervical hysteroscopic fibroid resection (TCRM) underwent in vitro fertilization and became pregnant. Two cleavage stage embryos were transferred 3 days following oocyte retrieval. Twelve days later, serum β -hCG was positive. The first transvaginal ultrasound (TV-US) scan at 4 weeks revealed a gestational sac in diverticulum at the anterior lateral fundus, communicated with the uterine cavity, the gestational sac (GS) was 25 mm in diameter. Magnetic resonance imaging (MRI) confirmed the ultrasound findings of a myomectomy scar pregnancy (MSP). The patient had a history of transcervical hysteroscopic fibroid resection (TCRM) one year previously. A solitary submucous myoma approximately 1 cm in diameter at the fundal region was removed.

Results

Intraoperatively, gestational sac was noted to bulge out from the previous myomectomy scar with very thin myometrium overlying it. Suturing of the endometrial cavity and the uterine wall were performed and no bleeding intraoperatively

Conclusions

Pregnancy at previous transcervical hysteroscopic fibroid resection scar is a rare complication.

**ES30-0311 -
Reproductive medicine and surgery**

CO₂ fiber laser vaporization for endometrioma treatment results in preserved ovarian responsiveness and improved embryo quality in infertile women undergoing ART

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Background

The aim of the present study is to compare ovarian responsiveness to gonadotropin controlled ovarian stimulation (COS) for assisted reproductive techniques (ART) in infertile patients carrying small intact endometriomas with those of patients managed by endometrioma cystectomy or CO₂ fiber laser ablation.

Methods

A retrospective case-control study with prospectively collected data of women with endometrioma-related infertility undergoing In Vitro Fertilization (IVF)/ Intracytoplasmic Sperm Injection (ICSI) at San Raffaele Scientific Institute was performed. Cases were infertile patients surgically managed for ovarian endometrioma by ablation using fiber laser CO₂ before ART. Controls were infertile women with endometrioma either managed by cystectomy prior to IVF/ICSI or undergoing ART as a first approach with no previous endometrioma surgical treatment. The primary endpoint was to assess the number of follicles per ovary growing during COS in the three study groups. The secondary endpoints included the number of oocytes retrieved, the total number of embryos obtained, embryo quality and the cumulative clinical pregnancy rate in the three study groups.

Results

At the end of COS, no significant differences emerged from comparison of total recruited follicles, total number of oocytes retrieved and total number of formed embryos between patients with endometriomas undergoing either primary ART or endometrioma CO₂ laser vaporization followed by ART. When compared with women carrying intact endometrioma, women who had cystectomy before IVF/ICSI had fewer recruited follicles, fewer oocytes retrieved, fewer MII oocytes retrieved and fewer total formed embryos. When comparing the number of good-quality formed embryos between groups, a greater number of good-quality embryos were observed in patients who underwent surgical treatment of endometrioma before ART (either cystectomy or CO₂ laser vaporization) compared to patients with intact endometrioma. Additionally, patients who underwent CO₂ laser vaporization before IVF/ICSI did not have low-quality embryos. No statistically significant differences between the three groups in terms of clinical pregnancy rates emerged.

Conclusions

CO₂ laser-treated endometrioma is associated with favorable reproductive ART outcomes.

**ES30-0312 -
Hysteroscopic Surgery**

Surgical and reproductive outcomes in women undergoing treatment of complete uterine septum with or without cervical anomaly

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Background

The aim of the study was to assess surgical, reproductive and obstetric outcomes in women who underwent treatment of complete uterine septum with or without cervical anomaly.

Methods

Observational study conducted at a single center in Italy (University of Naples Federico II) between October 2018 to October 2020. Inclusion criteria were women with diagnosis of complete uterine septum with or without associated cervical anomaly and history of infertility and /or recurrent implantation failure (RIF) and/or recurrent pregnancy loss (RPL). Women were divided into three groups: group A complete uterine septum associated with septate cervix, group B women with complete uterine septum associated with duplicated cervix, group C women with complete uterine septum and normal cervix. All patients underwent hysteroscopic metroplasty using miniaturized instruments (scissors and bipolar electrode), 15 Fr and 26 Fr resectoscope; cervical septum was treated (group A1) or not (group A2). All patients were followed up on their reproductive outcome by periodic telephonic interviews.

Results

20 women age ranged from 42 to 20 years were included (6/20 in group A, 10/20 in group B, 4/20 women in group C). All the surgical procedures were performed in the operating room. Creation of a single uterine cavity was obtained in all cases. No statistically significant differences in operative time and surgical difficulty were observed in group A1 compared to other groups. All patients were discharged the same day of the procedure after a short period of observation. Regarding reproductive and obstetric outcomes, the mean follow-up was 24 months. Six pregnancies were achieved: 2/6 in group A, 1 of whom resulted in first trimester abortion, 1 in a preterm delivery at 26 weeks of gestation that led to neonatal death; both pregnancies were recorded in group A1; 2/6 in group B, one first trimester abortion and one term delivery with scheduled cesarean delivery performed at 39 weeks; 2/6 in group C, both of them with an elective cesarean delivery performed at term.

Conclusions

Our preliminary data has shown that the treatment of complete uterine septum with or without cervical anomaly is not associated to significant statistically differences in operative time, surgical difficulty and reproductive or obstetrics outcomes.

**ES30-0314 -
Hysteroscopic Surgery**

Changes in the expression of endometrial receptivity genes after hysteroscopic metroplasty surgery in infertile women with congenital uterine malformation

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Background

The aim of the study was to determine the effect of hysteroscopic metroplasty on the expression of endometrial receptivity genes, such as HOX family and LIF gene, in infertile women with uterine malformations.

Methods

A prospective observational study conducted between June 2016 and March 2020. All patients underwent hysteroscopic metroplasty either in office or OR settings, in the proliferative phase. Endometrial hysteroscopic biopsy was performed immediately before the metroplasty and at the two-month follow up. The endometrial samples were immediately stored at -80° C and RT-PCR was used to evaluate the expression of each gene.

Results

Forty-four patients with a diagnosis of dysmorphic uterus or uterine septum (according to the ESHRE/ESGE classification), with history of primary unexplained infertility, repeated (>2) early miscarriages, or severe preterm labor (<25w) were enrolled in the study. The metroplasty was completed in all cases, resulting in a significant optimization of uterine morphology (44/44). After hysteroscopic metroplasty, overall 1.05-fold increase in endometrial HOX-10 expression and overall 1.09-fold increase in endometrial HOX-11 expression were detected in comparison with baseline values. The mRNA expression level of LIF gene resulted underexpressed, with a -1.12-fold decrease

Conclusions

Our data demonstrate that hysteroscopic metroplasty provides favorable effect on endometrial HOXA-10 and 11 mRNA expression. These preliminary data suggest that hysteroscopic metroplasty could induce an important uterine remodeling involving not only macroscopic but also microscopic changes.

Diagnostic performance of ultrasound in assessing the extension of disease in patients with advanced ovarian cancer: a prospective study

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Background

Surgical exploration remains the gold standard to evaluate the extension of disease and to predict the resectability. A laparoscopy-based scoring model was developed by Fagotti and colleagues in 2006 and updated in 2015, based on the intraoperative presence/absence of some specific cancer features. The model proved an overall accuracy rate of 77-100% and it is considered as reference test in our Institution to assess the resectability. The aim of our study was to analyze the agreement between preoperative ultrasound examination and laparoscopic findings in assessing the extension of intra-abdominal disease using six parameters as described by Fagotti's score.

Methods

This is a single-center prospective observational study. Patients with clinical and/or radiological suspicion of advanced ovarian or peritoneal cancer between January 2019 and June 2020 were assessed with preoperative ultrasound examination and assigned a score based on the six Fagotti's laparoscopic score parameters (great omentum, liver surface, lesser omentum/stomach/spleen, parietal peritoneum, diaphragms, bowel). Each parameter was then correlated with laparoscopic findings. The rate of concordance between ultrasound and laparoscopic parameters, using Cohen's kappa(κ) was calculated. Interpretation of Cohen's index has been performed as follows: ≤ 0.000 no agreement, 0.000–0.200 slight, 0.210–0.400 fair, 0.410–0.600 moderate, 0.610–0.800 substantial and 0.810–1.000 almost perfect agreement. Parameters that were not evaluable at ultrasound examination and/or laparoscopy were recorded as "not assessable" and they were excluded in the agreement analysis. Sensitivity, specificity, positive likelihood ratio (LR+) and negative likelihood ratio (LR-) were provided with the corresponding 95% Confidence Intervals (95% CI).

Results

338 patients were enrolled and 264 of them were included in the final analysis. Agreement between ultrasound and laparoscopy was almost perfect for great omentum ($\kappa=0.85$), substantial for liver surface ($\kappa=0.73$), diaphragms ($\kappa=0.70$), parietal peritoneum ($\kappa=0.63$) and bowel ($\kappa=0.77$); moderate for lesser omentum/stomach/spleen ($\kappa=0.54$). Ultrasound showed sensitivity 94.3%, specificity 92.6%, LR+ 12.8, LR-0.0 in assessing great omentum; sensitivity 96.5%, specificity 72.1%, LR+ 3.4, LR- 0.0 in assessing liver surface; sensitivity 91.3%, specificity 78.3%, LR+ 4.2, LR-0.1 in assessing diaphragms; sensitivity 76.7%, specificity 90.4%, LR+ 8.0, LR-0.2 in assessing parietal peritoneum; sensitivity 91.9%, specificity 97.5%, LR+ 36.7, LR-0.0 in assessing bowel; sensitivity 78.3%, specificity 77.6%, LR+ 3.4, LR-0.2 in assessing lesser omentum/stomach/spleen.

Conclusions

Ultrasound examination showed good agreement with laparoscopic findings and high accuracy in assessing laparoscopic parameters. This can be clinically useful in the diagnostic work up.

**ES30-0319 -
Technical innovation in minimal invasive surgery**

Initial experiences of the LiNA OperâScope™: A novel, single-use, disposable, continuous-flow, office hysteroscopy system

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Background

The LiNA OperâScope™ is a novel, single-use, disposable, continuous-flow, office hysteroscopy system. Traditional constraints are removed, namely the need for clinic space to house equipment, capital expenditure on endoscopy, and costs associated with sterilisation and replacement of reusable equipment. This pioneering technology comprises a rigid, curved 4.2 mm diameter cannula containing a miniature camera and distal LED illumination. The curved 0° system allows manipulation of the field of view by turning a central dial, where through the centre of this is a working channel for the introduction of ancillary instruments up to 1.86 mm (5.5 Fr) diameter. These include grasping and biopsy forceps, scissors and a lasso for cutting and snaring polyps. A small, manoeuvrable LCD panel is connected to the hysteroscope by a hinge and eliminates the need for an external screen. The novelty, convenience and simplicity of this system for office hysteroscopy is attractive if its performance for diagnosis and simple operative procedures is comparable to conventional hysteroscopy. We report our experience of the first 8 cases performed in the United Kingdom.

Methods

A bespoke survey consisting of 12 questions regarding the reliability, utility, image quality and feasibility of the OperâScope™ was completed by experienced hysteroscopists immediately post-procedure.

Results

8 cases, including 2 operative procedures (endometrial polypectomies) were conducted by three surgeons. The lasso was successfully used to remove two polyps of 2cm diameter. Manipulation and performance of all stages of hysteroscopic procedures (including vaginoscopy) was considered either 'easy' or 'very easy' by all surgeons. The LCD picture quality was considered 'excellent' or 'good'. Manipulation of the lasso to detach the polyps was considered 'very easy' but ensnaring the polyps within the lasso to remove from the uterine cavity after detachment required a few attempts due to lack of equipment familiarity. Free text comments rated the rigidity of the OperâScope™, the ability to rotate the dial for a wider field of view and the ease of introduction and use of ancillary instruments as positive features. Negative comments included (i) occasional glare on the LCD during manipulation, (ii) a pink 'ripple' effect generated on the LCD during initial vaginoscopy (before adequate fluid distention of the vagina), and (iii) contact of the LCD with the patient's external genitalia, obstructing forward progression of the hysteroscope in particularly obese patients or those with acute degrees of uterine flexion.

Conclusions

The groundbreaking LiNA OperâScope™ has the potential to transform the setting and availability of diagnostic and simple operative hysteroscopic procedures. Our initial experience supports the reliability, utility and efficacy of this novel system. Larger cohorts and randomised series, including data of patient experience are needed to better understand the role of this innovative technology in contemporary gynaecological practice.

Conservative hysteroscopic treatment for atypical endometrial hyperplasia in reproductive age, a retrospective study

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Background

Endometrial hyperplasia (EH) is characterized by proliferation of endometrial glands of irregular size and shape including non-neoplastic entities and precancerous neoplasms. EH has been separated into two groups based upon the presence or absence of cytological atypia, in order to highlight the prognostic impact of the presence of atypia on the potentially malignant transformation of the lesion, as EH could progress in endometrial carcinoma. Up to today the principal therapeutic strategy is hysterectomy for EH with atypia and therapeutic options for EH patients who desire to preserve fertility are hormonal therapies to avoid a demolitive surgery. In this setting we propose a conservative hysteroscopic treatment for EH with atypia in woman in reproductive age who desire to preserve fertility.

Methods

A retrospective study was conducted including 9 women in reproductive age treated with hysteroscopic partial endometriectomy (PER), from September 2013 to December 2018 in the Regional Centre of Excellence in Hysteroscopy, Palagi Hospital, Florence. PER was performed by using hysteroscopic platform Gynecare Versapoint II (Ethicon, USA) equipped with a 4 mm electrosurgical loop. PER is a single slice resection of all endometriectomy thickness saving the fundus and the tubal angles. After the procedure was applied gel Hyalobarrier® to prevent intrauterine adhesions

Results

The mean age was 40,4 ±4,03 years (range 34-48 years) and three women were nulliparous. The BMI was normal in six women, two were overweight and one woman was obese. In all cases the initial diagnosis of EH with atypia was present on an endometrial polyp that was in six cases confirmed after the PER, for two women the final pathological diagnosis was EH without atypia and in one case the histology was negative. Three women used oral progesterone or IUD releasing levonorgestrel after the procedure. No intra or postoperative complications occurred. The women were then monitored with office hysteroscopy every six months with interruption at the onset of a pregnancy and return to follow-up after delivery. Regarding the reproductive outcomes: five patients, for the moment, had no pregnancies and one is undergoing IVF techniques. One woman failed three IVF techniques (ICSI-homologous and ICSI-heterologous) and two women had a spontaneous pregnancy with delivery of two term babies of normal weight without obstetrical complications.

Conclusions

Currently, there is no standard medical or surgical treatment for the subgroup of patients with EH in reproductive age who desire to preserve future fertility. This conservative hysteroscopic management represents a safe therapeutic approach with promising results regarding future obstetrical outcomes.

**ES30-0323 -
Hysteroscopic Surgery**

Endometrial wound healing duration after hysteroscopic treatment of type 2 and 3 myomas

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Background

The aim of the study is to assess the mean resolution time of the fovea after hysteroscopic treatment of type 2 and type 3 myoma.

Methods

Prospective observational study at University of Naples, Federico II. Inclusion criteria were women aged 30-50 years, with at least one type 2 or type 3 myoma, history of infertility or uterine bleeding underwent hysteroscopic myomectomy. All surgical procedures were performed by one expert hysteroscopist, using a 15 Fr or 26 Fr resectoscope, either outpatient or in the operating room. Cold loop myomectomy applied to bipolar resectoscope was used for the removal of the intramural component of the myomas. All women underwent repeated follow-up office hysteroscopies every week after the surgical procedure for the first month and then two months later.

Results

From March 2019 to April 2021, Twenty patients with type 2 or 3 myoma with infertility (12/20) or uterine bleeding (8/20) were enrolled. The resectoscopic myomectomy was successful in all cases, without any significant complications. Overall, the mean diameter of resected myomas was 21 mm. The fovea was almost completely restored between three to five weeks after surgery in case of myomas \leq 1.5 cm and within 60 days for myomas $>$ 1.5 cm. The resolution was faster in women \leq 40 years old. No correlation was observed between the resolution time of the fovea and the different localization of the myomas.

Conclusions

These preliminary data showed short time to resolution of the fovea in case of type 2 and 3 myomas hysteroscopically treated. The respect of the myometrium and the reduced thermal injury obtained thanks to the cold loop technique applied to bipolar resectoscope, may have influenced the resolution time of the fovea.

ES30-0324 - Imaging

A tricky case: report of endometrial cancer arising from cystic adenomyosis

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Background

To evaluate the difficulties in the preoperative evaluation and imaging in a case of endometrial carcinoma arising from cystic adenomyosis.

Methods

We report a case of a 77 year old woman referred to our center with irregular vaginal bleeding. Ultrasound examination showed enlarged retroverted uterus with a single uterine myometrial fundical tumor of 5 cm, with inhomogeneous echogenicity, internal irregular cystic areas, absence of shadows and irregular borders; at color Doppler examination, a rich vascularization was detected. The endometrium was thin with intracavitary anechoic fluid. MRI confirmed a miometrial lesion with no endometrial involvement. Hysteroscopy was performed and showed an atrophic endometrium with no endometrial lesion. Laparotomic total hysterectomy with bilateral salpingo-oophorectomy and pelvic lymphadenectomy was performed with suspicious of miometrial sarcoma.

Results

Pathologic examination revealed EC-AIA (endometrioid endometrial adenocarcinoma G3 arising in adenomyosis) with positive pelvic lymphnodes defining a FIGO stage IIIC

Conclusions

It is not unusual for endometrial cancer to coexist with adenomyosis (EC-A); however, endometrial cancer arising from adenomyosis (EC-AIA) is extremely uncommon. Early diagnosis is very difficult if there is no involvement of the endometrium due to the lack of symptoms and to the confounding imaging. Transvaginal Ultrasound (TV-US) together with Magnetic Resonance Imaging (MRI) is now one of the most accurate tools for the preoperative evaluation of endometrial cancer. Unfortunately the typical US or MRI findings of EC-AIA have not been elucidated therefore preoperative distinction between malignant mesenchymal tumors of the uterus and endometrial cancer arising from adenomyosis is challenging. It will be necessary to accumulate a larger number of cases of EC-AIA to identify a specific suspicious ultrasound pattern for its detection so to offer the best possible treatment.

ES30-0328 - Endometriosis

Histopathological diagnosis of adenomyosis, progression of labour and placental retention: results from a retrospective Dutch national population study

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Background

Adenomyosis affects uterine contractile function due to disruption of the junctional zone, leading to symptoms such as dysmenorrhoea and infertility. Uterine contractile function is well-known in the context of the onset and progression of labour and delivery. Common obstetric complications such as failure to progress, uterine hyperstimulation, or uterine atony leading to postpartum haemorrhage or placental retention, are associated with ineffective uterine activity.

It can be hypothesised that adenomyosis in pregnancy may lead to a higher risk of these obstetric complications. A number of recent studies have shown a relation between adenomyosis and adverse obstetric outcomes. However, most of these studies have been small, or based on self-reported diagnoses. There is a need for large-scale studies using a reliable diagnostic method in order to definitively assess the influence of adenomyosis on obstetric outcomes.

Methods

This retrospective population based study used several national databases, in order to compare pregnancy outcomes in women with a histopathological diagnosis of adenomyosis to those in the general Dutch population.

Women with registered pregnancy outcomes in the Dutch national Perined registry, who received a histopathological diagnosis of adenomyosis (post hysterectomy) between 1995 to 2018, as registered in the Dutch national PALGA registry (*Pathologisch-Anatomisch Landelijk Geautomatiseerd Archief*), were included. The obstetric outcomes of these women were compared to those of the general Dutch population.

Both the Perined and PALGA databases collect anonymous patient details. In order to link both anonymous databases to one combined dataset, used the Dutch Central Statistics Bureau (CBS).

(Primary) Outcomes included: mode of delivery, failure to progress, placental retention, postpartum haemorrhage (PPH). A multivariate regression analysis was conducted to calculate adjusted Odds Ratios (OR) and 95% confidence intervals. The outcomes were corrected for: maternal age, parity, ethnicity, year of registered birth, induction of labour, multiple gestation and low socioeconomic status.

Results

The PALGA registry offered a total of 36168 women with histopathological adenomyosis diagnosis. In that same period, 5,156,730 births were registered in the Perined registry. 7,925 women with adenomyosis were able to be linked to pregnancy outcomes in the Perined registry, vs. 4,615,803 women without adenomyosis.

Compared to the general Dutch population, women with adenomyosis had an aOR of 1.538 (95% CI 1.410-1.679) for emergency caesarean delivery, and aOR of 1.242 (95% CI 1.124-1.373) for failure to progress, an aOR of 1.278 (95% CI 1.101-1.484) for placental retention and an aOR of 1.232 (95% CI 1.098-1.383) for PPH. There was no significantly increased risk for placental abruption, operative vaginal delivery or need for oxytocin stimulation.

Conclusions

Histopathological diagnosis of adenomyosis after hysterectomy is associated with failure to progress in labour and placental retention compared to the general Dutch population. This seems to confirm the theory that uterine contractile function in labour is impaired in women with adenomyosis.

**ES30-0330 -
Hysteroscopic Surgery**

Endometrial biopsy under direct hysteroscopic visualization versus oriented/blind biopsy for diagnosis of endometrial pathologies: systematic review and meta-analysis

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Background

To investigate the diagnostic accuracy of endometrial biopsy performed under direct hysteroscopic visualization versus oriented/blind biopsy for diagnosis of endometrial pathologies.

Methods

Systematic review and meta-analysis. Electronic databases were searched from their inception until February 2021. We included studies comparing the diagnostic accuracy of endometrial biopsy performed under direct hysteroscopic visualization versus either oriented or blind biopsy. Outcomes evaluated were: insufficient samples rate, sample adequacy (defined as enough tissue to be analyzed by pathologists), and rate of failure in detecting endometrial pathologies. The summary measures were reported as relative risk (RR) with 95% of confidence interval (CI). I-squared greater than 0% was used to identify heterogeneity.

Results

Five studies (1,470 patients), comparing endometrial biopsy performed under direct hysteroscopic visualization versus blind biopsy using dilation and curettage (D&C) or Novak curette, were included in the meta-analysis. Hysteroscopic biopsy was associated with significantly lower risk of insufficient sample (RR 0.07, 95% CI 0.03 to 0.18), and 96% significantly lower risk of failure in diagnosis endometrial pathologies (RR 0.07, 95% CI 0.05 to 0.11) (Table 1).

Table 1. Primary and secondary outcomes

	Sample adequacy	Sampling time (seconds)	Insufficient samples n (rate)	Failed to detect n (rate)*	Premalignancy failed to detect n (rate)**	Endometrial cancer failed to detect n (rate)***
Ceci 2002	433/433 vs 345/397	Not reported	0/433 vs 52/397	12/433 vs 248/397	1/433 vs 4/397	1/433 [G1] vs 5/397
Wanderley 2016	Not reported	Not reported	0/134 vs 2/57	13/134 vs 12/57	0/134 vs not reported	Not available
Li 2017	147/169 vs 13/13	Not reported	22/169 vs 0/13	Not reported	Not reported	Not reported
Rosenblatt 2017	7/7 vs 0/7	44±23 vs 47±38	0/7 vs 7/7	Not reported	Not reported	Not reported
Di Spiezio 2020	129/129 vs 119/121	Not reported	0/129 vs 2/121	Not applicable****	Not applicable ****	0/129 vs 2/121
TOTAL	716/738 (97.0%) vs 477/538 (88.7%)	44±23 vs 47±38	22/882 (2.5%) vs 63/595 (10.6%)	25/567 (4.4%) vs 260/454 (57.3%)	1/577 (0.2%) vs 4/397 (1.1%)	1/572 (0.2%) vs 7/517 (1.4%)
I²	95%	N/A	62%	97%	N/A	0%
MD or RR (95% CI)	1.12 (1.09 to 1.15)	-3.00 seconds (-35.91 to 29.91)	0.07 (0.03 to 0.18)	0.07 (0.05 to 0.11)	0.22 (0.03 to 2.00)	0.18 (0.03 to 1.05)
p-value	<0.01	0.86	<0.01	<0.01	0.18	0.06

Data are presented as mean±standard deviation or as number with percentage (intervention vs control group)

N/A, not applicable

*Failed to detect any type of intrauterine disorders that were found on hysterectomy

** Failed to detect premalignancy (e.g. complex hyperplasia) disorders that were found on hysterectomy

**** Failed to detect endometrial cancers that were found on hysterectomy*

****Di Spiezio et al. included only women with endometrial cancer*

Boldface data, statistically significant

Conclusions

Preoperative hysteroscopic guided endometrial biopsy is more accurate in diagnosis endometrial pathologies compared to standard blind biopsy.

Performance of ADNEX model and subjective assessment in discriminating between malignant and benign adnexal masses in patients with breast cancer

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Background

International Ovarian Tumor Analysis (IOTA) ADNEX model is capable to discriminate between benign and malignant adnexal masses with a performance similar to the subjective impression of an experienced ultrasound examiner. In the present study, we aimed to assess the accuracy of ADNEX model and subjective assessment in discriminating between benign and malignant adnexal masses in a population of patients with personal history of breast cancer. The secondary aim was to assess the accuracy of ADNEX model in identifying ovarian metastases.

Methods

This is a single center retrospective study including patients with personal history of breast cancer submitted to surgery for an adnexal mass from January 2013 to April 2020. All patients were examined using a standardized ultrasound technique and all tumors were described using IOTA terminology.

Subjective assessment of the ultrasound examiner was collected from original reports. ADNEX model was retrospectively applied to all tumors. Sensitivity, specificity, positive likelihood ratio (LR+) and negative likelihood ratio (LR-) were provided with the corresponding 95% Confidence Intervals (95% CI). The performance of ADNEX model in differentiating metastatic tumors from the other tumors was calculated by using the highest relative risk calculated by the model.

Results

204 women were included in the analysis. Most patients (167/204, 81.9%) underwent laparoscopy, 32/204 (15.6%) had both laparoscopy and laparotomy, and 5/204 (2.5%) underwent laparotomy. At histology, 93/204 (45.6%) tumors resulted to be benign, 77/204 (37.7%) were primary ovarian tumors and 34/204 (16.7%) were metastasis. ADNEX model showed sensitivity 100%, specificity 78.5% (95%CI 70.1-86.8), accuracy 90.2% (95%CI 86.1-94.3), LR+ 4.6 (95%CI 3.1-6.8), LR-0.0 in discriminating between benign and malignant masses. Subjective assessment showed sensitivity 93% (95%CI 87.6-98.4), specificity 89.7% (95%CI 81.8-97.5), accuracy 91.7% (95%CI 87.2-96.2), LR+8.9 (4.2-19.2), LR- 0.0 (95%CI 0.0-0.1) in discriminating between benign and malignant masses. ADNEX model showed sensitivity 61.7% (95%CI 43.5-77.8), specificity 87.6% (95%CI 81.7-92.1), accuracy 83.3% (95%CI 77.5-88.1), LR+ 5.0 (95%CI 3.0-8.0) and LR- 0.4 (95%CI 0.2-0.6) in discriminating between metastatic tumors from the others.

Conclusions

ADNEX model is an accurate method to discriminate between benign and malignant masses in patients with personal history of breast cancer. This accuracy was similar to that demonstrated for the subjective assessment. ADNEX model demonstrated also a good accuracy to discriminate metastatic tumors from other tumors.

**ES30-0334 -
Laparoscopic surgery**

Acute surgical management of ruptured ovarian endometrioma

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Background

This presentation discusses the acute surgical management of ruptured ovarian endometrioma in a 30 year old lady, with a known 9cm endometrioma who presented to the emergency department with an acute abdomen. This presentation also discusses the surgical techniques when performing an ovarian cystectomy.

Methods

A pre-menopausal patient presented with acute abdomen and raised inflammatory markers on the background of extensive endometriosis. A laparoscopy was performed and rupture of endometrioma was diagnosed.

Results

Laparoscopy revealed extensive omental adhesions to the anterior abdominal wall and pelvis, a frozen pelvis, evidence of a ruptured endometrioma with endometriotic fluid and fibrin deposits widespread intra-abdominally, and a large left endometrioma. Thorough suction/irrigation was performed to remove the endometriotic fluid and deposits, followed by blunt dissection of adhesions and cystectomy of the endometrioma. The patient made good recovery post-operatively.

Conclusions

Peritonitis due to spontaneous rupture of ovarian endometrioma is a rare complication of endometriosis. Women can present with symptoms and signs of acute abdomen including pain, nausea, vomiting and pyrexia. Endometrioma contents are irritants to the peritoneum, leading to both local and systemic inflammatory response. Correct identification and careful separation of tissue planes, often using blunt dissection only, is key in the surgical management of intra-peritoneal adhesions, due to the presence of inflamed tissue. Laparoscopic approach is superior to laparotomy in management of ruptured endometrioma. Copious irrigation washes away the irritant fluid, thus reducing the systemic and local inflammatory response. Clinicians should be aware of the potential risk of progression of endometriosis associated with prolonged endometriotic fluid retention in the peritoneal cavity

Laparoscopic extraperitoneal paraaortic lymphadenectomy in cervical cancer: advantages of surgical staging

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Background

Radiation treatment planning for women with locally advanced cervical cancer is often based on positron emission tomography, however, it has poor sensitivity in detecting metastatic lymph nodes in the paraaortic region. Due to these results, the surgical staging was recently recommended for the decision of treatment. Laparoscopic extraperitoneal paraaortic lymphadenectomy is a quite new and minimally invasive technique for surgical staging. Our aim was to assess the efficacy and safety of this method and call the attention to the superiority of surgical staging compared to radiological staging of paraaortic lymph node status to precisely decide the definitive treatment.

Methods

We analyzed 18 patients diagnosed with locally advanced cervical cancer who underwent laparoscopic extraperitoneal paraaortic lymphadenectomy at our university clinic between 2018 and 2021. Depending on the results of the paraaortic lymphadenectomy, treatment considered of pelvic- or extended field chemoradiotherapy. At the same time, we compared the preoperative positron emission tomography results with the surgical staging results.

Results

The median age at diagnosis was 51.4 years. The median operating time was 62 minutes. The median hospital stay was 1,5 days. Four patients had positive paraaortic lymph nodes. There was no serious complication and no need for transfusion.

Conclusions

We present the method of extraperitoneal laparoscopic paraaortic lymphadenectomy step-by-step, which is a fast and minimally invasive way of surgical staging in women with locally advanced cervical cancer, with low complication rates. Pretherapeutic surgical staging in this way allows the adaptation of radiotherapy fields to avoid false-positive and false-negative imaging results.

**ES30-0336 -
Laparoscopic surgery**

Surgical management of Tubo-ovarian Abscess (TOA), complicated by endometriosis

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Background

This presentation discusses the surgical management of TOA on the background of extensive endometriosis on 2 cases of women with TOA with a background of severe endometriosis.

Methods

Two cases, one aged 50 and another aged 48 with extensive endometriosis presenting with sepsis and tubo-ovarian abscesses were managed with intravenous antibiotics and laparoscopic drainage. These cases were unrelated to in vitro fertilisation. All patients made good recovery post-operatively.

Results

Surgical management of TOA should include: MDT approach with colorectal surgeons in view of increased incidence of bowel adhesions, blunt dissection and/or hydro-dissection of adhesions, drainage of abscess(es), consideration of salpingectomy/salpingoophorectomy, thorough irrigation of the abdomen and pelvis, insertion of a drain, management of postoperative sequelae.

Conclusions

TOAs up to 5cm in size may be managed with parenteral antibiotics successfully. However, in cases of larger abscesses, and/or sepsis not responding to antibiotics, surgical exploration and drainage of purulent material with or without removal of involved tube and/or ovary is crucial.

Laparoscopy is superior to laparotomy for the management of TOA. It requires advanced laparoscopic skills due to presence of adhesions and increased risk on visceral injury.

Ovarian endometriomata are associated with an increased risk of TOA, as their content can function as nutrient for bacteria. TOA on the background of significant endometriosis, poses particular surgical challenges due to pre-existing endometriosis-related adhesions and inflammatory process and requires cautious MDT approach.

Post-operative sequelae can include prolonged recovery with prolonged course of antibiotic treatment, adhesions and chronic pelvic pain, infertility.

**ES30-0337 -
Technical innovation in minimal invasive surgery**

Needlescopic-assisted risk-reducing bilateral salpingo-oophorectomy in BRCA 1/2 mutation carriers: peri-operative outcomes and psychological impact

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Background

BRCA1/2 mutation raises the risk of developing ovarian cancer from 11% to 44% and breast cancer from 45% to 72%. Risk-reducing bilateral salpingo-oophorectomy (RR-BSO) is the most effective option in preventing both conditions. The recently introduced concept of the percutaneous approach represents an innovative step forward in the field of ultra-minimally invasive surgery. The present study was aimed to investigate the role of needlescopic-assisted laparoscopy in terms of surgical impact and psychological outcomes in RR-BSO for BRCA1/2 patients.

Methods

Between March 2016 and March 2018 26 consecutive patients were prospectively enrolled in the study and underwent to RR-BSO at our institution. Perioperative variables, intraoperative and postoperative complications were collected. Postoperative pain was gauged using the VAS score and recorded at 2, 4, 12, and 24 hours both at rest and after the Valsalva maneuver. The psychological interview with the administration of a custom-made questionnaire (score 0 to 5 for each item), was performed at the discharge and during the first postoperative follow-up visit (between 30 and 60 days after surgery).

Results

We reported a median operative time of 18.5 minutes (range, 15-37), a median estimated blood loss of 0 mL (0-20) and no conversion to laparoscopy or laparotomy. From the postoperative pain analysis, we reported a median VAS score "at rest" of 2, 3, 1 while under "Valsalva maneuver" was 4, 3, 2, respectively at 2, 4 and 24 hours. The 77% (20/26) of the whole population had a previous diagnosis of breast cancer. All patients expressed great cosmetic satisfaction both at discharge and after 30/60 days, with an 84.6% of score 5 and a 15.4% of score 4. Furthermore, the highest number of "score 5", concerning the cosmetic outcomes, were clustered in the subgroup of breast cancer survivors with a 95% of score 5 versus 50% of score 5 in patients with no previous breast cancer ($p = 0.0073$). Similarly, the maximal psychological advantage of the ultra-MIS approach in accepting the RR-BSO was revealed in the breast cancer survivors (70% of score 5 versus 16% of score 5, $p = 0.02$).

Conclusions

The use of 2.4mm instruments and the nearly unnoticeable scar left after surgery raises the possibility of decreasing postoperative incisional pain, reducing hospitalization, and ensuring better cosmetic and psychological outcomes without increasing complications. The full psychosomatic benefit of ultra-MIS, within BRCA mutation carriers, is revealed in breast cancer survivors, probably due to the comparison with the mutilating and invasive previous breast surgery.

Is there a best way of suturing the posterior vaginal wall after the eradication of recto-vaginal endometriosis with vaginal mucosa infiltration? (Endo-Vag-r Study)

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Background

Rectovaginal endometriosis with vaginal mucosa infiltration must be excised through partial colpectomy. However, there is no evidence about the best direction in suturing of the posterior vaginal wall defect after the nodule resection (horizontal [Ho], along the transversal latero-lateral axis vs vertical [Ve], along the longitudinal ventro-caudal axis). In this study we sought to compare the rate of early specific complications (vaginal suture dehiscence, rectovaginal fistula) between the two directions of suturing of vaginal defect in women affected by symptomatic RVE with vaginal mucosa infiltration. Secondary outcomes included other perioperative surgical outcomes (operative time, estimated blood loss and laparotomic conversion rate) and late specific complications (deep dyspareunia recurrence).

Methods

This is a multi-centre, retrospective cohort study. Medical records of consecutive reproductive age women submitted to complete macroscopic eradication for symptomatic RVE with vaginal mucosa infiltration between 2013 and 2019 at tertiary academic centres were reviewed. Before surgery, demographic features and clinical data including pain symptoms were assessed. Pain intensity was evaluated using a 10-cm visual analogue scale (VAS). Intraoperative and perioperative data were collected for all patients. All women were submitted to symptoms' evaluation, gynaecological examination and pelvic ultrasound at 30 days from surgery and then annually. The suturing direction performed was chosen case by case according to the surgeon intraoperative preference.

Results

One-hundred-and-one women were included in the study. Women were divided into two groups according to the direction of suturing of vaginal defect: in 67 (66.3%) the vaginal defect was sutured along the transverse axis (Ho-group), while in the remaining 34 (33.7 %) the suture of the breach was performed along the longitudinal axis (Ve-group). The two groups were comparable in terms of demographic, clinical and intraoperative data. The two groups were similar in terms of operative time, estimated blood loss and laparotomic conversion rate. The mean size of vaginal nodule removed was 2.2±1.2 cm vs 2.4±1.1 cm, with no statically difference between the two groups. Although not significant, we noticed in Ho-group an higher rate of early specific complications: one case of rectovaginal fistula and one case of vaginal suture dehiscence. No specific early complications occurred in the Ve-group. At median follow-up of 54 months, we observed a higher rate of deep dyspareunia recurrence in Ve-group patients compared to Ho-group patients (p=0.04).

Conclusions

In symptomatic women affected by RVE with vaginal mucosal infiltration requiring surgery, horizontal suturing of the vaginal wall after colpectomy seems to be associated to a higher rate of early and late vaginal complications, including deep dyspareunia recurrence. Further prospective studies are needed to confirm our findings.

Laparoscopic Burch colposuspension for stress urinary incontinence in the setting of the BSUG mentorship scheme - short to medium term outcomes

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Background

Burch colposuspension is an effective procedure for stress urinary incontinence. It was first described as an open procedure by John C. Burch in 1961.

Due to the pause on mesh procedures and increasing interest in laparoscopic procedures for incontinence The British society of Urogynaecology (BSUG) developed a Non-Mesh Continence Surgery Mentorship Scheme.

The aim of this study is to determine short to medium term outcomes of laparoscopic burch colposuspension undertaken in the setting of the BSUG mentorship scheme.

Methods

All patients undergoing laparoscopic burch colposuspension under a single named consultant provided written consent for their details to be retained for this study. Ten patients underwent this procedure in this unit and ten agreed to be included in this study.

Peri/postoperative outcomes were recorded and the patients were contacted at 3, 6 and 12 months to complete a follow up quality of life survey (BSUG Patients Global Impression of Improvement (PGI-I) for Incontinence) alongside the ICIQ-UI survey.

Results

The mean operative time was 97 minutes (53-156.)

There were no major operative complications or conversion to laparotomy. In four cases suture material was noted in the bladder on cystoscopy following the procedure. In three cases the suture was removed laparoscopically and resited. In one case due to the proximity of the ureter the suture was removed but not resited.

The mean inpatient stay was 41 hours (24-72.) One patient developed a urinary tract infection which delayed discharge and remained an inpatient for 72 hours.

A Trial removal of catheter was undertaken on all patients after 24 hours. Three patients were unable to void at this time so had a catheter left in situ for seven days for repeat trial removal. This was successful in all cases. No patients required readmission following discharge.

The baseline ICIQ score was compared at 3, 6 and 12 months using paired-samples t-test.

When comparing baseline score to the follow-up scores there was a statistically significant reduction in score. The baseline ICIQ score was 16.4. At 3 months this had reduced to 2.2 ($p=0.000$) and at 6 months this was 2.9 ($p=0.000$.) At 12 months the ICIQ score was 3.2 ($p=0.000$)

Conclusions

Laparoscopic Burch Colposuspension has previously been shown to be a safe and effective procedure for stress urinary incontinence. Due to the pause on vaginal mesh procedures there has been increasing interest in laparoscopic burch colposuspension.

In this paper we have shown that undertaking a laparoscopic Burch Colposuspension in a mentorship setting is safe with medium term outcomes equivalent to previously published literature. There is a higher than expected rate of suture material detected in the bladder emphasising the importance of performing a cystoscopy post suture placement. These results should provide reassurance to clinicians and patients involved in these procedures.

Feasibility and the efficacy of RRSO combined with simultaneous mastectomy and breast reconstruction in BRCA 1-2 patients

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Background

Hereditary BRCA 1-2 mutations are known risk factors for the development of breast and ovarian cancer. Risk-Reducing Salpingo-Oophorectomy (RRSO) and bilateral mastectomy are the only effective risk-reducing strategies for these patients. Commonly these are two step surgical procedures performed separately. The aim of this study was to evaluate the feasibility and the efficacy of RRSO, combined with simultaneous mastectomy and breast reconstruction in BRCA 1-2 mutation carriers.

Methods

We conducted an observational retrospective study on patients with BRCA 1-2 mutation who undergone combined and simultaneous laparoscopic RRSO and mastectomy with breast reconstruction at the Gynaecology Clinic of Padua and Breast Unit of Veneto Institute of Oncology (IOV). Inclusion criteria: patients with BRCA 1-2 mutation, consent to simultaneous surgery. We collected data about age, menopausal status, history of breast carcinoma, pre-operative CA-125 levels, transvaginal-ultrasound features before surgery, operative times, intra and post-operative complications, follow up (FUP) information after RRSO and satisfaction about the simultaneous procedure.

Results

We included 40 patients. RRSO was performed in all patients. 37 women underwent to bilateral mastectomy and 3 to monolateral mastectomy (all with breast reconstruction). The mean operative time was 229.6 ± 50.7 minutes (48 ± 16.9 minutes for the RRSO, 147.1 ± 43.6 for mastectomy and reconstruction with a mean surgical team changing time of 34.4 ± 19.6 minutes). No operative complications were reported for RRSO; concerning breast surgery we reported 4 cases of prosthesis loss and one of breast hematoma with a median FUP of 20 months (6-95). The mean hospitalization days was 3.4 ± 2.3 . After one month after surgical procedure all patients expressed high satisfaction about the simultaneous surgery.

Conclusions

RRSO combined with simultaneous mastectomy and breast reconstruction is feasible, effective and provides an intriguing option for BRCA 1-2 mutation carriers. A single time for anaesthesia, hospitalization and a not increased complication rate lead to high satisfaction of the patients. Nevertheless, patient's selection should be carefully performed and surgical teams have to be properly instructed and coordinated.

3D patient-specific virtual models for presurgical planning in patients with recto-sigmoid endometriosis nodules

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Background

Recently, 3D modelling and 3D printing were used to guide surgical procedures in various surgical settings, including gynaecology. We present a series of 3D virtual anatomical reconstructions of recto-sigmoid endometriosis (RSE) nodules and surrounding pelvic organs generated from magnetic resonance (MRI) and we compare these 3D models with the intraoperative findings.

Methods

This is a prospective monocentric case series performed in a tertiary level center for endometriosis and minimally invasive gynaecological surgery, including consecutive symptomatic women undergoing minimally invasive surgery for RSE from November 2019 to June 2020. MRI was conducted according to our institutional protocol. 3D virtual reconstruction was carried out with D2P™ software ('DICOM to PRINT'; 3D Systems Inc., Rock Hill, SC). Surgical interventions were performed as per usual clinical practice by the same surgeons, highly experienced in minimally invasive surgery for endometriosis. Before surgery, the models were examined focusing on three domains: nodule's circumferential extension, bowel angulation and degree of bowel stenosis induced by RSE. After surgery, the surgeon was asked to subjectively evaluate the correlation of the models with the intraoperative findings regarding the three domains and to express his evaluation as "no correlation", "low correlation" or "high correlation".

Results

Seven 3D anatomical virtual models of RSE nodules and surrounding pelvic organs are presented. In all cases, surgeons reported a subjective "high correlation" with the surgical findings.

Conclusions

Presurgical 3D virtual anatomical model reconstruction could be a feasible and useful tool supporting surgical planning in women with RSE.

Fertility potential and pregnancy outcome following laparoscopic myomectomy. Results from a single surgeon data

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Background

Fibroids are a common benign gynaecological entity resulting in heavy menstrual bleeding, pressure related symptoms and subfertility. Their management is dependent on their location and size, as well as family planning aspirations. Myomectomy is a fertility preserving procedure. The first abdominal myomectomy was performed in 1845 by American physician and surgeon Dr John Light Atlee. In the 1980s, Kurt Semm was the first to describe removal of subserosal fibroids laparoscopically. The question in recent years is what is the fertility potential of laparoscopic myomectomy and how soon after surgery can women achieve pregnancy?

Methods

104 laparoscopic myomectomies were done from 2012 to 2020 by a single surgeon in a district general hospital. Of those 104 cases, 48 reported desire for conception and all had significant subfertility with most of them trying to conceive between 2 to 6 years prior to surgery.

In all cases, a modified Palmer's point entry technique and modified Dillons infiltration (Pitressin 20IU in 200mls NaCl) were used. All fibroids were removed via morcellation.

Results

Out of 48 women undergoing laparoscopic myomectomy with the intention to treat fibroidal symptoms and improve their fertility potential, 11 nulliparous women got pregnant. Their average age was 39 years (33 – 47). Average BMI was 30 kg/m² (24 – 45). All women had intramural fibroids, with or without a submucosal component (Wamsteker types 1-5). Average number of fibroids removed was 5 (2 – 9). Mean fibroid size removed was 7cm (4-11cm). In all cases the cavity was breached and uterus was closed in layers with intracorporeal suturing with Stratafix PDO (Ethicon®) and Vicryl 1.0. Average blood loss was 200mls. No blood transfusions. Majority of women were discharged between 36 and 48 hours following surgery without any significant post-operative complications.

Mean time interval of surgery to pregnancy was 15 months (6 months to 36months). Out of this subgroup, 9 women conceived spontaneously (only one woman miscarried at first trimester, and she was 47 years old). One woman had clomiphene citrate ovulation induction and one woman underwent assisted reproductive techniques (ART).

All 10 women who carried their pregnancies to term had elective caesarean section for their delivery between 38 to 39 weeks gestation.

Conclusions

It has been significantly debated whether laparoscopic myomectomy is the appropriate choice of surgery for women with fertility aspirations.

This study shows that majority of women that achieved pregnancy after such surgery had spontaneous conceptions (9 out of 11) and were able to carry their pregnancies to term without any reported uterine rupture despite uterine cavity breach in all cases during laparoscopic myomectomy.

Larger studies of that kind are required to evaluate fertility and pregnancy potential following laparoscopic myomectomy, but our single centre results offer a positive guide.

Laparoscopic lateral suspension - Colpotomy anterior modification

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Background

Laparoscopic Lateral Suspension (LLS) is a new technique introduced by Dubuisson in 1998 for the treatment of apical defects and now has the potential to function as an alternative to sacrocolpopexy. The classical LLS technique requires a central 10-mm umbilical trocar for the camera and three working 5 mm trocars (or one 10 mm) in the suprapubic and inguinal regions. Additional two skin incisions are needed at both sides of the abdomen. The central part of a T-shaped mesh is flattened over the vesico-vaginal dissection plane and fixed to the vaginal fascia with absorbable tackers and four to six separated nonabsorbable sutures. In order to avoid intracorporeal knot tying to shorten the operation time and to widen the fixing area of the mesh with increasing the number of fixation sutures, we developed a new technique with the aid of performing a colpotomy anterior intervention.

Methods

A 38 years old, gravida 2, para 2 woman was presented with rapid development of total uterine prolapse after vaginal birth in 9 months. She was unable to void spontaneously and needed continuous bladder catheterization. Initial management with pessaries in several attempts was unsuccessful. She wanted a treatment that could both protect her uterus and be permanent. Final decision was LLS with colpotomy anterior modification.

At the beginning of the operation, the vaginal surgical site was carefully cleaned to prevent ascending infection. After dissection of the vesico-uterine space laparoscopically, an anterior colpotomy was performed and the mesh was introduced into the vesico-uterine space through colpotomy anterior incision. The distal part of the two armed mesh was positioned on the lower uterine segment and cervix and fixed with eight prolene sutures externally. Colpotomy anterior incision was closed and the peritoneum on the vesico-uterine space was sutured with v-lock sutures. A significant correction in the vaginal axis was observed after placing both arms of the mesh along the abdominal wall extraperitoneally. The lateral arms of the mesh were fixed to the fascia at the level of skin incision.

Results

Total operation time was 90 minutes and the uterus was observed in its anatomic place at the first visit postoperatively. In two years' follow up, the patient didn't experience any infections, dyspareunia or surgical site pain. While a stage 2 posterior prolapse developed which was not present before the surgery occurred, patient was satisfied with result of the intervention subjectively.

Conclusions

LLS with colpotomy anterior modification may provide more appropriate and safe positioning of the mesh, reduce the operation time significantly and facilitate LLS avoiding laparoscopic suturing as the most limiting factor. Thus, we can argue that it may further populize LLS among less experienced endoscopists who avoid performing the procedure due to their lack of confidence on laparoscopic conventional suturing.

A unique case of a pelvic arteriovenous malformation associated to iliac thrombosis, mimicking a pelvic mass in a woman with sudden pelvic pain

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Background

Pelvic arteriovenous malformation (PAVM) is an extremely rare vascular lesion consisting in an abnormal connection between arteries and veins. Clinically, it causes nonspecific symptoms, such as pelvic pain, vaginal bleeding, dyspareunia, changes in bowel and bladder function. The diagnosis is based on US which demonstrates a serpiginous/tubular anechoic structures with low resistance (RI : 0.2 - 0.5), high-velocity flow pattern on color Doppler examination. We report a rare case of a PAVM complicated by an acute thrombosis, which was mute at US Doppler mimicking a solid adnexal mass.

Methods

Case report. A 45-year-old woman with two previous cesarean sections presented to our emergency room with lower abdominal pain, not responsive to analgesics. She had regular menses and her last menstrual period started 20 days earlier. Two years earlier the patient had undergone a laparoscopic left adnexectomy due to a not specified benign ovarian pathology. Our transvaginal ultrasound examination revealed a left sided varicocele and left oblong solid mass of about 5 cm in size, with irregular margins, inhomogeneous echopattern and no internal vascularization at color-Doppler examination. Furthermore, a main peripheral arterious vessel penetrating into the central part of the mass was seen. The serum tumor markers were negative. The abdominal computed tomography (CT) showed a left sided varicocele with extensive thrombosis and a dilatation of the inferior vena cava. An antithrombotic therapy was started and the patient underwent a magnetic resonance imaging which showed a PAVM sustained by a vessel deriving from the left hypogastric artery.

Results

After 10 days the patient was asymptomatic and a follow-up contrast enhanced CT scan revealed the persistence of a pelvic solid mass of 5 cm in size in the context of the PAVM.

In order to define the nature of such a lesion a laparoscopic evaluation was planned. At laparoscopy, a sub-peritoneal mass egg-shaped was detected on the lateral wall of left pelvis. The previous extensive diagnostic evaluation that allowed to be alarmed to the vascular pathology unable us to avoid catastrophic maneuvers in the attempt to remove the pelvic mass. Peritoneum was opened and by careful dissection we observed that the pelvic mass corresponded to an enlarged (roughly 10 mm size) and convoluted internal iliac artery. After intraoperative consultation with a vascular surgeon, considering that the patient was asymptomatic in presence of a large PAVM and that no pelvic mass was detected the procedure was stopped.

Conclusions

An accurate ultrasound and Doppler examination of pelvic vessel is advisable in patient with sudden acute pelvic pain and evidence of pelvic mass and enlargement of pelvic vessels.

Patient gave her consent for publication of her identifiable details and photographs

Comparison of different near-infrared technologies to detect sentinel lymph node in uterine cancer: a prospective comparative study

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Background

Sentinel lymph node (SLN) biopsy is considered a crucial step in endometrial cancer staging. Indocyanine green (ICG) has been proposed as tracer to detect SLN and it has been demonstrated to be more accurate than other tracers. Different near-infrared camera systems are currently being used to detect ICG SLN and have been compared in different patients; however, there is no study using two different technologies on the same patient. Moreover, it is known that SLN can be identified through different lymphatic pathways and in case more pathways are highlighted in the same patient, it is difficult to discriminate which is the “true” SLN. The primary endpoint of the present study was to determine the number of SLN detected in the same patients with two different near-infrared technologies. Secondary endpoints were: to compare the sites of ICG uptake using two different systems and to assess which system was more effective in detecting SLN metastasis.

Methods

This was a prospective, single-center, observational, non-sponsored study. Consecutive patients with endometrial cancer clinical FIGO stage I-II were prospectively enrolled between 09/2020 and 05/2021. Patients underwent cervical injection of 1 ml superficial and deep of ICG (1.25 mg/ml). 10-15 minutes after injection two different near-infrared cameras were used to detect SLN: Olympus, Tokyo, Japan – considered the standard (SNIR); and Medtronic, Minneapolis, MN, USA with VISION SENSE® which is a new laser near-infrared (LNIR) fluorescence laparoscope for bright-field full-color observation and provides the ability to adjust the intensity of excitation light and quantify the intensity of ICG fluorescence during observation. The two cameras were alternatively activated to detect SLN on the same patient; all SNIR green SLN(s) were removed and sent to pathology.

Results

Seventy-four patients were included in the study. Patients' characteristics are reported in Table 1: most of patients were diagnosed with endometrioid histology (62, 83.8%), FIGO-stage IA (64.9%), grade 2 (43, 58.1%) and underwent surgery with laparoscopic approach (60, 94.0%). The bilateral detection rate was 56/74 (75.7%) with SNIR and 63/74 (85.1%) with LNIR ($p=0.214$). Total number of SLNs identified on the left hemipelvis was 65 and 70 with SNIR and LNIR, respectively; while in the right hemipelvis, was 74 and 76, respectively. The median number of SLNs identified with SNIR and LNIR was 2 (range, 0-4) and 2 (range, 0-4), respectively ($p=0.370$). No difference in site of SLN detection was evident between the two technologies ($p=0.994$). Twelve patients (16.2%) had SLN metastasis: in all cases SLN was detected both with Olympus and LNIR.

Conclusions

No difference in bilateral detection rate and number or site of SLN detection was evident comparing two different technologies of near-infrared camera for ICG detection in endometrial cancer patients. No difference in SLN metastases identification was detected between the two technologies.

Deep endometriosis laparoscopic surgery with segmental bowel resection complicated by necrotizing fasciitis – An unexpected and devastating outcome

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Background

We aim to describe a case with one of the rarest and worst postoperative complications of deep endometriosis surgery involving bowel resection. This case occurred in a referral endometriosis surgery center, with more than 100 procedures of bowel resection performed.

Methods

A woman with a history of infertility with deep endometriosis was submitted to a laparoscopy with excision of pelvic right side wall and periureteral endometriotic lesions, appendicectomy (dilatation of the terminal portion), excision of recto-vaginal septum nodule and anterior resection of rectum/sigmoid lesion with 12 cm followed by primary anastomosis. Bowel integrity tests were normal at the end of the procedure.

Results

The postoperative period was complicated by acute rectal hemorrhage of the bowel anastomotic line. An urgent colonoscopy identified the bleeding vessel, treated with adrenaline and clips. The patient recovered and 12 hours later was again hemodynamically unstable with signs of septicemia and intense abdominal pain; a CT-scan revealed moderate pneumoperitoneum and ascites, suggestive of peritonitis. Antibiotics were started, followed by exploratory laparoscopy. A small anastomosis leakage was identified, peritoneal toilette and derivation ileostomy were performed. At intensive care unit (ICU) the patient underwent sedation/ventilation due to the persistent septic shock. Despite some clinical stability for the first 24 hours, there was an accelerated progression of a bruise with phlyctenas in the inferior abdomen, perineum and thighs. CT angiography showed markedly densification of skin and subcutaneous tissue, suggestive of fasciitis. Debridement of the necrotic tissues was performed until the aponeurosis, and wound dressing with dakin solute was applied and changed every 12 hours, together with multiple broad-spectrum antibiotherapy. Wound cultures and tissue biopsies grew *Bacteroides fragilis*, *Escherichia coli*, *Enterococcus faecalis* and *Enterococcus avium*. The refractory septic shock persisted, with increasing intra-abdominal pressure (22 mmHg) and progressive cutaneous lesions with subcutaneous emphysema, leading to an urgent open laparostomy and extended necrotic tissue debridement, reaching 50% of total body surface, the moment at which was decided to discontinue the procedure due to limitation of additional debridement viability. After some hours in the ICU the patient passed away due to a rapidly evolving multiorgan failure, cardiorespiratory arrest and asystole, despite planned attempts to perform renal replacement therapy.

Conclusions

The incidence of necrotizing fasciitis after colorectal laparoscopic procedures is very low but its difficult recognition in early stages and rapid spread of the infection can lead to an impossible disease control, even in patients with no previous risk factors. This case represents an extremely rare situation in the context of colorectal endometriosis surgery, but highlights the need to balance between pros and cons when opting for a surgical attempt to improve clinic and infertility consequences of this disease.

Factors affecting young surgeons' decision to convert from laparoscopy to laparotomy and their results

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Background

In laparoscopic surgery, depth perception in the 2D environment, hand-eye coordination, bimanual coordination, ambidexterity and good camera navigation are the competencies needed in addition to the ones required for classical surgery. During the operations with a long learning curve, the decision to switch to laparotomy is made more frequently by young surgeons in order to achieve acceptable surgical results. In this study, we aimed to find the most common causes and their consequences by examining the decisions of young surgeons to switch to laparotomy.

Methods

Laparoscopic surgeries performed between 2012 and 2016 in University of Health Sciences, Kanuni Sultan Süleyman Training and Research Hospital, Gynaecology and Obstetrics department were retrospectively analyzed. Operations performed due to malignant pathologies were excluded from the study due to the participation of subspecialists. Laparoscopic gynaecological surgeries performed by 15 surgeons who have less than 3 years of experience as specialists were reviewed retrospectively. The reasons for conversion from laparoscopy to laparotomy and post-operative results were analyzed from the electronic records of the patients.

Results

In the period covered by the study, 87 of 1615 (5.38%) operations started with laparoscopy were converted to laparotomy. Among these 87 patients, the mean BMI was 27.4, the operative time was 133 minutes, the hospital stay was 4 days, and the mean hemoglobin change was 1.81 mg/dl. The most common reasons for conversion to laparotomy were intra-abdominal adhesion (50%), suspected malignancy (11.6%), instrumental and technical problems (10.5%), anesthesia-related problems (8.1%), and uncontrollable bleeding (7.0%). Rarer reasons were suturing (4.7%), failure with trocar entry (3.5%), and failure with the removal of the resected tissue (3.5%). The rates of the complications were 20.9% heavy bleeding (>1000ml), 16.3% peripheral organ injury and 4.7% vascular injury. While the frequency of endometrioma in preoperative diagnosis was 22.1%, it increased to 37.2% postoperatively. Tubaovarian abscess was not diagnosed preoperatively, but it was found to be 4.7% postoperatively. 2.4% endometrioma and abscess were seen simultaneously. In addition, the differential diagnosis of preoperative myoma uteri and adenomyosis cannot be made in 1.2% of the patients, and laparotomy is turned to because adenomyosis surgery cannot be performed effectively.

Conclusions

In the results of our center, the rate of conversion to laparotomy is consistent with the literature (1.7-5.5%). The morbidity of the patients was higher compared to the results of the non-converted patient groups. Failures in the abdominal trocar entry, tissue removal and suturing demonstrates the necessity of a systematic laparoscopy training program. It is important to evaluate the diagnoses preoperatively and to determine the degree of difficulty. The experience of the surgeon should be correlated with the difficulty of the case.

An ultrasound study of the prevalence of endometriosis in pregnancy: a prospective observational study

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Background

Although endometriosis is a common gynaecological condition, its true prevalence remains unknown. It is estimated to affect 2-10% of women of reproductive age and in some women is associated with pain symptoms, subfertility and impaired quality of life. A large proportion of women with endometriosis are relatively asymptomatic and its presence may be an incidental finding during pelvic imaging or surgery.

Recent literature suggests that women with endometriosis in pregnancy are at higher risk of miscarriage, preterm birth and small for gestational age babies. They have also been reported to have an increased risk of placenta previa, antepartum and postpartum haemorrhage and Caesarean section delivery.

The aim of this study was to assess the prevalence of endometriosis using pelvic ultrasound examination in women attending for early pregnancy care

Methods

This was a prospective observational study conducted over a period of two years. We included all consecutive women who were all assessed by a single clinician. The study was carried out in a dedicated early pregnancy unit. We included 1442 consecutive women who attended for an early pregnancy assessment and had ultrasound scans performed by a single clinician. The outcomes of interest were the prevalence of endometriosis in addition to possible associations with demographic and clinical variables. Data analysis was performed using logistic regression and multivariate analysis.

Results

The prevalence of endometriosis in women attending the early pregnancy unit was 4.9% (95% CI 3.8 – 6.2); 9/66 (13.6%, 95% CI 5.3 – 21.9) women had ovarian endometrioma, 33/66 (50.0%, 95% CI 37.9 - 62.1) had deep endometriosis and 24/66 (36.4%, 95% CI 24.8 – 48.0) had evidence of both ovarian and deep endometriosis. In those with evidence of deep endometriotic nodules, there was evidence of bowel involvement in 17/57 (29.8%, 95% CI 17.9 – 41.7) women and 2/57 (3.5%, 95% CI 0 – 8.3) had signs of bladder/vesicouterine involvement. In 33/66 (50%, 95% CI 37.9 – 62.1) women with endometriosis, this was a new diagnosis made for the first time during their early pregnancy scan. Women that had undergone fertility treatment were more likely to present with ultrasound evidence of endometriosis ($p = 0.001$; OR 3.15, 95% CI 1.63, 6.07). The presence of endometriosis was strongly associated with congenital uterine anomalies ($p < 0.001$; OR 5.69, 95% CI 2.17 – 14.9) and uterine fibroids ($p = 0.004$; OR 2.37, 95% CI 1.31, 4.28).

Conclusions

Endometriosis is present in nearly 5% of women attending for early pregnancy assessment. In half of the women with endometriosis, the diagnosis was made for the first time during pregnancy. We propose that ultrasound may be a useful tool for the detection of endometriosis and to identify pregnant women who may benefit from specialist antenatal care.

Setting up regular hysteroscopic transcervical resection of fibroid (TCRF): reflection on challenges and outcomes

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Background

The aim of the work is to present challenges that can be faced when setting up a regular hysteroscopic trans-cervical fibroid resection (TCRF) service and training and to present the outcome of last 18 months with service improvement.

Methods

We conducted a retrospective data collection (from theatre electronic database). This was cross checked with the surgeon's log of cases. Data was tabulated in an excel sheet and results were analysed. Information was collected on: age, parity, symptoms, ultrasound scan findings, hysteroscopy findings, Gonatotrophin releasing hormone analogue prescription, previous procedures, referring doctor, site of fibroid, type, size, estimated blood loss, fluid deficit, duration of surgery, any intraoperative or postoperative complications, follow-up, improvement of symptoms/patient satisfaction.

Results

We did a review on all hysteroscopic transcervical resection of fibroid (TCRF) over 18 months period. During that we did 38 eligible TCRF cases. Most of the cases presented with heavy menstrual bleeding (84%). Interestingly, in 21% of cases, the ultrasound scan did not report the submucous fibroid, and those reported, there was no standardised description of the fibroids. The same was for hysteroscopic referrals, where no clear description or classification in 71% of cases. Preoperative gonadotrophin releasing hormone analogue was given to 21% of cases (where the size of fibroid 3-4 cm with heavy bleeding). There were no cases of significant fluid deficit, intraoperative or postoperative complications.

Conclusions

Setting transcervical fibroid service can be safe if implemented with adequate training and support. Awareness can increase referrals and uptake on the procedure. Ultrasound and hysteroscopic definition of the fibroids using standardised reports is very important in pre-operative planning for the procedure.

Laparoscopic treatment of vesical endometriosis: our experience

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Background

Vesical endometriosis (VE) consists of an endometriotic tissue that infiltrates the detrusor muscle of the bladder with varying degrees of penetration, it can be either partial thickness or full thickness. Our study aims to report the experience of Centro Materno Infantil do Norte with patients with VE treated by a minimally invasive surgical approach (laparoscopy).

Methods

Retrospective and descriptive analysis of all VE cases approached by laparoscopy, in our center, from January 2013 to December 2020. For statistical analysis, it was used SPSS 25.0.

Results

Surgical procedures for the treatment of VE were performed in twenty women. The women's mean age was 35±4.7 years (range 27 - 43) and fifteen of them were nulliparous. Dysuria (100%) and dysmenorrhea (100%) were the most frequent symptoms, followed by dyspareunia (62.5%). Twelve women had concomitantly deep endometriosis of the septum and/ or uterosacral ligaments. Full-thickness resection of deeply infiltrating endometriosis lesions (partial cystectomy) was undergone in fifteen (75.0%) women and laparoscopic shaving of serosa/muscular vesical lesions in five (25.0%) women. In three cases of partial cystectomy, the women were previously submitted to vesical shaving, however, had a recurrence of VE probably due to an incomplete recession. No conversions to laparotomy were needed. During the procedures, there was 1 case of ureteral injury and 1 case of small intestine injury. The majority of women reported improvement of urinary symptoms after surgery.

Conclusions

VE can be successfully managed with a laparoscopic approach, with a low rate of complication, improvement of symptoms, and low rate of recurrence. Surgical procedures for the treatment of VE depend on the varying degrees of penetration in the detrusor muscle.

Impact of preoperative optimization in patients undergoing benign gynaecological surgery. Patient blood management: Quasi-experimental clinical trial post-implementation of the patient blood management protocol

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Background

Suffering anemia before a surgical intervention increases the risk of complications and patient mortality. Patients with anemia have a 40% higher risk of death than those disease-free, as well as 30% more comorbidities after any type of surgery. Patient Blood Management (PBM) protocol consists of several techniques based on three pillars: patient optimization before surgery, reducing unnecessary blood loss through the intervention and restriction of blood transfusion and fluid therapy after the surgery. Despite its effectiveness being observed in several studies on different types of surgery, the evidence on the efficacy of PBM in patients undergoing benign gynaecological surgery is scarce.

Methods

This quasi-experimental clinical trial focuses on assessing differences in the preoperative hemoglobin in a population of women undergoing benign gynaecological surgery. Two cohorts were compared: a prospective cohort study after implementing PBM versus a retrospective cohort following usual protocol in Hospital del Mar.

Results

A total of 114 patients discharged between 2016 and 2020 with different inclusion periods pre-PBM (96 patients) and post-PBM (18 patients) were analyzed. Hemoglobin concentrations at preoperative assessment were similar (12.75 ± 0.18 g/dL vs 12.88 ± 0.41 g/dL, for usual care group and PBM; $p=0.985$). Compared to the usual care group, reduced perioperative transfusion rate (14.88% vs 0%, respectively; $p=0.044$) was observed in the PBM group. There was no difference in discharge intraoperative blood loss, postoperative hemoglobin, length of stay, or IV postoperative ferrotherapy.

Conclusions

The results showed a lower need for transfusion for the PBM compared to the usual care cohort. Regarding presurgical hemoglobin, the results are promising although not statistically significant. We hope that in further studies -with a major number of patients and more selective inclusion criteria, the results will be able to show the positive impact of PBM on patient safety in gynaecology.

Ruptured low-grade appendiceal mucinous neoplasm forming a para-adnexal loca – an accidental finding during salpingectomy laparoscopic procedure

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Background

We aim to describe a case of a low-grade appendiceal mucinous neoplasm (LAMN) discovered during a laparoscopic procedure to improve fertility outcomes. It constitutes a rare type of tumor usually diagnosed during appendix resection for a suspected appendicitis or incidentally during imaging studies.

Methods

A patient with a history of secondary infertility, spastic colitis and pelvic pain was sent by an infertility clinic to our gynaecological department due to an ultrasound diagnosis of pyosalpinx, in order to perform unilateral salpingectomy. The main goal was the intrauterine transferring of a sole frozen embryo formed after ovarian stimulation and puncture. Pelvic ultrasound and magnetic resonance showed adenomyosis and a right pyosalpinx with 3-4 cm maximum length. Analytical parameters including tumor markers (CA 19.9 and CA 125) were all normal.

Results

During a laparoscopic procedure, the right adnexa was identified as adherent to the appendix. Indeed, after adhesiolysis the extremity of the appendix was localized inside the right adnexa, so appendicectomy was performed. The right adnexa released a mucinous fluid, the reason that led to carrying out right salpingectomy and partial oophorectomy. The left tube was macroscopically normal but the chromopertubation with methylene blue was negative. In the postoperative period, the patient was discharged one day after surgery, with no complications. Pathology results revealed a ruptured low-grade appendiceal mucinous neoplasm forming a para-adnexal loca with extracellular and acellular mucinous content.

Conclusions

The treatment of appendiceal mucinous tumors has not reached a consensus yet, although their incidence is rising. Low-grade neoplasms are usually only surgically resected if diagnosed in early-stage or followed by peritoneal debulking and hyperthermic intraperitoneal chemotherapy if in advanced stages. The most worrisome possible consequence of this type of neoplasm is the seeding of mucin into the nearby visceral and parietal peritoneum, which represents a pseudomyxoma peritonei (PMP). This entity comprises collections of gelatinous content in abdominopelvic cavity together with mucinous implants on the surface of the peritoneum. The 10-year mortality rate of PMP is estimated as high as 40%. The guidelines for LAMN follow-up and its duration are also not standardized, but it has been suggested to perform an abdominal CT-scan and tumor markers measurement at 6 months. There are cases of PMP reported 15 years after LAMN resection. Here we present a very rare case of a LAMN in which the preoperative radiologic findings mislead the clinics into a pyosalpinx diagnosis, discovered in the context of infertility treatments, highlighting the need for a high grade of suspicion concerning intraoperative findings like the ones here described.

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Laparoscopic surgery**

REACCT study - Retrospective analysis of cervical cancer treatment outcomes. Ten years of experience with the vaginal assisted radical laparoscopic hysterectomy (VARLH)

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Background

LACC trial demonstrated inferiority of laparoscopic approach for the treatment of early-stage cervical cancer. There are still limited data from retrospective trials regarding whether survival outcomes after laparoscopic radical hysterectomy are equivalent to those after open abdominal radical hysterectomy. In this study we present results of combined laparoscopic-vaginal radical hysterectomy in the treatment of early-stage cervical cancer.

Methods

This retrospective study, was carried out at Department of Gynaecology in Mathilden Hospital (Herford, Germany). The study was approved by the Ethics Committee on Clinical Studies of Medical University of Münster (UKM). Between January 2008 and April 2018, all the patients with invasive cervical cancer who underwent combined laparoscopic-vaginal assisted radical hysterectomy (VARLH) without the use of any uterine manipulator, were enrolled to the study.

Results

A total number of 124 patients with diagnosis of invasive cervical cancer were enrolled in the study. All of the patients underwent minimally invasive surgery and were divided according to FIGO 2019 to: stage IA (25,9%), IB1 (25,0%), IB2-IIB (28,4%), and III/IV (20,7%). Overall, the mean age of the patients was 51,84 years. After a study collection a median follow-up was 45,6 (range 23,7-76,5) months. The 3-,5-year disease-free survival rates for early-stage cervical cancer were both 98% and the 3-,5-year overall survival rates were 100% and 97%, respectively. We have not observed any recurrence in our study group of patients with early-stage cervical cancer.

Conclusions

Combined VARLH can be considered as safe and effective procedure for the treatment of early-stage cervical cancer. Surgical strategy with oncological principles determines the quality and long-term success of the operation in early cervical cancer regardless of laparoscopic approach.

New strategy to manage endometriosis related pain and symptoms: the rule of ketogenic therapy

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Background

Food therapy has been lengthily coveted as a strategy to treat a variety of clinical conditions, including pain and inflammation. One of the most promising approaches is the therapeutic applications of the ketogenic diet, in particular endogenous beta-hydroxybutyrate (BHB) plays a role in the regulation of the NLRP3 inflammasome with inhibition of IL-1 β , IL-18, nuclear factor NF-kB and increased I-kB levels

Activation of the NF-kB factor has been observed in peritoneal macrophages and endometriotic lesions of patients with endometriosis. The main objectives of this study was the evaluation of the efficacy on endometriosis related symptoms in two groups of patients: group A KD in overlapping with other treatment, group B KD alone.

Methods

The present study aims to assess the efficacy of KD treatment alone and in over-lapping with NETA 2,5 mg and E/P. The primary endpoints include the assessments of endometriosis-related symptoms, abdominal swelling, asthenia, headache and dysmenorrhea, NMPP, assessed using a visual analogue scale (VAS) and questionnaires FSFI, KESS and SF-12 at month 1,2,3.

BHB was evaluated at the blood level as chetonemia.

For the purpose of statistical analysis T student was used.

Results

Over the study period, August 2018 to February 2020, 290 patients were enrulded in KD treatment. Each patient experienced KD for a first track of 90 days, totalling an overall 26.100 days of treatment analyzed in the present study.

Group A) included 225 patients that experienced KD in overlapping with Neta and E/P. KD Therapy had a significant reduction in 90% of the patients regarding endometriosis-related symptoms: abdominal swelling, asthenia and headache, with p-value of 0,001.

Group B) included 65 patients that experienced KD alone. KD therapy had a significant reduction in dysmenorrhea and NMPP In 70 % of patients with a p-value of 0,001 and endometriosis-related symptoms (abdominal swelling, asthenia, headache) in 80% of cases with p-value of 0,001.

BHB was evaluated at the blood level, with chetonemia ranging between 1 and 3 mM/dl.

Conclusions

Our data show that endogenous BHB produced during KD therapy is therefore useful for asthenia, headache and swelling abdominal and for the reduction of dysmenorrhea and NMPP associated with endometriosis. These data open new treatment perspectives in the use of BHB-mimetic drugs.

Subtotal laparoscopic hysterectomy followed by in-bag transvaginal specimen extraction: preliminary experience

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Background

To evaluate surgical feasibility and short-term outcomes of laparoscopic subtotal hysterectomy (SLH) followed by in-bag transvaginal specimen extraction.

SLH has been proposed as a safe alternative to total laparoscopic hysterectomy (TLH) in case of benign disease. Available evidence shows that, compared to TLH, SLH is associated with non-inferior perioperative outcomes, including surgical complications, and psychological or sexual sequelae.

Extraction of the *corpus uteri* is a crucial step of the procedure. Uncontained morcellation has been traditionally used to avoid laparotomy; however, following the FDA warning against power morcellation, gynecologists either moved back to open surgery or proposed alternative methods for specimen retrieval.

In the struggle to maintain the advantages of a minimally invasive approach, avoiding the concerns about spreading of surgical debris after morcellation, we here present a case series to evaluate the reliability of a new method for contained specimen retrieval following SLH.

Methods

We recorded data of consecutive patients who underwent SLH at our institution from January 2019 to April 2021. Laparoscopic 5mm instruments were used to accomplish SLH in standard fashion. Once the *uterus* was detached from the *cervix*, a specimen retrieval bag was inserted through a 2cm posterior colpotomy and *corpus uteri* was placed inside the extraction device.

Transvaginal in-bag manual morcellation was accomplished and the colpotomy was closed with running 1-0 polyglactin suture. Baseline patient characteristics, comorbidities, estimated blood loss (mL), skin-to-skin operative time (minutes), length of hospital stay (days), uterus weight (grams), need for conversion to open surgery and intraoperative complications were recorded. Perioperative and postoperative complications occurred within 30 days from surgery were reported.

Results

Over the study period 10 consecutive patients underwent SLH followed by in-bag transvaginal specimen extraction. Median age at surgery was 45,5 years old and 6 patients had undergone previous laparotomy (cesarean section and/or appendectomy). Median Charlson Comorbidity Index was 1 (range 1 – 2). Median blood loss was 100cc (30 - 450) and no blood transfusions required. Median operative time was 71,5 minutes (range 34–143). Uterus weight ranged from 60g to 470g (median 210). No conversions to laparotomy, intraoperative or in hospital complications occurred. Median hospital stay was 2 days (1 - 3). No same-hospital readmissions or postoperative complications were registered within 30 days from surgery.

Conclusions

SLH followed by in-bag transvaginal specimen extraction is a promising technique and could be considered as a reliable and safe option to further reduce the invasiveness of the laparoscopic approach without the need for laparotomy or enlargement of any surgical access. Given the relatively small series, further studies are warranted to confirm our findings.

Laparoscopic surgery for female sterilization: experience in a Portuguese center - 5 years retrospective cohort

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Background

The aim of our study was to describe the population of women submitted to sterilization surgery in our center in the last 5 years, searching for gynaecology referrals after procedure and motives in order to evaluate the impact of each approach in gynaecological long-term outcomes, as ovarian reserve and abnormal uterine bleeding referral.

Methods

We performed a search for ICD9 diagnosis of "admission for sterilization" in all women submitted to a gynaecology surgery between 2020 and 2015 was performed. Clinical records were analyzed for data regarding demographic characteristics, clinical past history and type of laparoscopic sterilization procedure (bilateral tubal ligation (BTL) vs bilateral salpingectomy (BS)). Then we compared perioperative complications and motives for posterior hospital referral between the two groups. Histological results of fallopian tubes removed were also analyzed.

Results

128 women were admitted with the diagnosis of "admission for sterilization", 87 were submitted to a laparoscopic procedure - the remaining group were women submitted to hysteroscopic sterilization with ESSURE®.

Mean age of (N=87) at procedure was 38.0 (+5.6) years old, mean BMI was 27,9kg/m²(+6,26), 17 (19.5%) women presented at least one comorbidity and 18 (20.7%) had at least one previous abdominal surgery. Mean parity was 2.1 (+1.05).

BS was the laparoscopic procedure chosen for sterilization in 37 women (Group A) (42.5%) and in 50 (Group B) (57.5%) laparoscopic BTL was performed. Intraoperative complications were reported in 2 cases, both of them described as bowel thermal injury, one in each group. In Group A, all fallopian tubes were classified as normal, at histological evaluation.

Only 15 women were referred to a gynaecology consultation after procedure - 4 (10.8%) after BS procedure (Group A) and 11 (22.0%) after BTL procedure (Group B).

Motives for referral were abnormal uterine bleeding in 7 women (2 in group A and 5 in group B), vasomotor symptoms in 2 cases (Group A and Group B) and in the remaining 6, other motives.

Conclusions

Despite limitations of the study due to the small number of women included and its retrospective nature, both procedures present a low risk of complication. Abnormal uterine hemorrhage was the most frequent cause for posterior consultation referral after BTL procedure. As BS for female sterilization is more and more the method of choice for female sterilization large studies are needed to evaluate its implications.

Robotic surgery using the novel senhance® robotic system: a single-centre experience in performing gynaecologic procedures, learning curve analysis and surgeons task load

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Background

Objective: with the introduction of the Senhance® robotic system (Transenterix Surgical Inc., Morrisville, USA) an improvement was promised in ergonomics and reduced surgical variability, due to eye-tracking, improved working posture and 3D visualisation. By haptic feedback, the feeling of conventional laparoscopy is being resembled, while digital fulcrum calculation should minimize the incision trauma and limits forces applied through the instruments on the incision site. We set out to describe the effects of these features in gynaecologic procedures.

Methods

92 robot assisted gynaecological procedures were performed from November 2018 till December 2020. Due to the COVID19 pandemic, robot-assisted surgery came to a halt with 85 laparoscopic hysterectomies, 4 adnexectomies, 1 adhesiolysis with cyst extirpation and 2 endometriosis surgeries performed. After surgery, the operators were asked to score their perception of Mental, Physical and Temporal Demand, Performance, Effort and Frustration for the procedure on a 21-point scale, validated for assessing workload. Perioperative data and these NASA-TLX scores (raw-TLX) were retrospectively analysed.

Results

Patients' mean age (SD) was 47.3 (11.8) ranging from 28 to 82 years, with a mean BMI of 26.4 (4.6) kg/m². Patients had to be eligible for general anaesthesia, were classified ASA 1 or 2 (96.7%) or ASA 3 (3.3%). 57.6% of patients had previously undergone abdominal surgery of which 27.2% by laparotomy.

Mean duration of a hysterectomy with bilateral salpingectomy or salpingo-oophorectomy was 2 hours and 13 minutes (\pm 0:29), 1 hour and 10 minutes (\pm 0:10) for the laparoscopic adnexectomies, 1 hour and 41 minutes (\pm 0:26) for the endometriosis surgeries and the laparoscopic adhesiolysis with cyst-extirpation took 1 hours and 35 minutes.

Median docking time was 6 minutes (IQR: 5, 9 minutes). Mean cockpit-time was 1 hours and 27 minutes (\pm 0:26) for the laparoscopic hysterectomies.

For the laparoscopic hysterectomies, median uterine weight was 156 (IQR: 111.5-200.5) grams, ranging from 40 to 1075 grams.

There were ten (10.9%) (temporary) conversions to conventional laparoscopy. Intraoperative complications occurred in two cases and could immediately be resolved.

Post-operative complications occurred in fifteen cases (16.3%), of which twelve (13.0%) cases were minor complications (Clavien-Dindo grade I-II) and three major complications (Clavien-Dindo III).

In-hospital stay until discharge was one day on average (range 0-7 days).

The learning aspect of robot assisted laparoscopic hysterectomies was analysed using a mixed methods analysis for the 6 different domains scored, corrected for case difficulty as a product of ASA-score, BMI and uterine weight. All workload indices significantly improved over time, with the most progress being made in the 'Mental Demand' and 'Effort' parameters.

Conclusions

Senhance® digital laparoscopy is feasible while major and minor complication rates appear to be comparable to conventional laparoscopy. Its distinguishing features appear to improve mostly on perceived effort and mental demand during operation.

Core outcomes of laparoscopic excision of deep rectovaginal endometriosis in a BSGE accredited Endometriosis Centre

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Background

Our objective is to describe core outcomes of laparoscopic excision of deep rectovaginal endometriosis from a single BSGE accredited Endometriosis Centre. We report on overall pain and Quality of Life (QoL).

Methods

The included women underwent laparoscopic surgery for the excision of deep rectovaginal endometriosis, requiring dissection of the pararectal space, from January 2015 to December 2020. Data were collected prospectively. Patients were asked to complete standard questionnaires on symptoms, including pain/discomfort (overall pain) and QoL preoperatively, at 6 months, 12 months, and 24 months after surgery. EuroQoL Visual Analogue Scale (EQ-VAS) was used as a self-reported quantitative measure of patient's overall health outcome from 0 to 100. We considered thresholds of 10% and 20% in the EQ-VAS score to classify patients' experience of change in overall health following surgery. Data analysis used descriptive statistics.

Results

153 patients underwent laparoscopic surgery for deep endometriosis from January 2015 to December 2020 in our centre, with/without rectal shave, bowel resection, total hysterectomy, uni/bilateral salpingoophorectomy. 6 month follow up data were available for 135 patients and 24 months follow up data were available for 81 patients. Among patients who reported overall extreme pain at baseline, 18.9% (7/37) were pain free and 59.4% (22/37) had moderate pain at 6 months; at 24 months 15% (3/20) were pain free, and 60% (12/20) reported moderate pain. Among patients who reported overall moderate pain at baseline, 26.8% (22/82) were pain free at 6 months, and 30% (15/50) were pain free at 24 months. The median EQ-VAS scores were 50, 70 and 70 preoperatively, at 6 months and 24 months, respectively. 76.3% (103/135) of patients reported improved QoL at 6 months following surgery, for 60.7% (82/135) this improvement was >20%. At 24 months, 67.9% (55/81) of patients had improved QoL, for 51.9% (42/81) the improvement was >20%. 78% (38/49) of those who improved significantly (>10%) with surgery, maintained significant improvement at 24 months. QoL was worse for 18.5% (25/135) and for 21% (17/81) at 6 months and 24 months following surgery, respectively. Complications involving the bowel occurred in 1.3% cases (2/153) and complications involving the urinary tract in 1.3 % cases (2/153).

Conclusions

The low complication rates and improvement in overall pain and QoL following laparoscopic excision of deep rectovaginal endometriosis demonstrated here are comparable to other specialized centres. The figures presented here can be used to inform patients' expectations and support the discussions before consent for endometriosis surgery.

The role of laparoscopic surgery in treatment of infertile patients with endometriosis- 10 year experience of one university center

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Background

Endometriosis and infertility are clinical pictures which are often associated with each other. There is an observed association between endometriosis and infertility, but a causal relationship has not yet been established.

Laparoscopy is an important invasive procedure used in patients with endometriosis for diagnostic purposes in there the sense of clarifying the cause and /or therapeutic purpose in case an endometriosis associated infertility is already confirmed.

Methods

Retrospective data analysis with prospective evaluation of the effect of laparoscopic intervention in patients with endometriosis. All the patients with laparoscopic intervention during 2007 until 2017 (102 patients), infertility and the following diagnosis of endometriosis were included. The patients who the follow up was not possible were excluded. From 695 patients, 102 patients were included in our study.

Results

Mean time of follow-up was 70 months. The most pregnancies have happened in the first 6 until 12 months after the operation. The average time to pregnancy amounted 10 months. The log rank test did not show any significant differences in the cumulative pregnancy rates based on various rASRM stages. The longer the waiting time until the operation the worse the rate of pregnancy after the operation ($p=0,007$). Median age was 33.5. Repeated laparoscopy had a bad prognostic effect on pregnancy rate. Deep infiltrating endometriosis, intestinal endometriosis and intraabdominal adhesions had a negative effect for pregnancy

Conclusions

The laparoscopic treatment of endometriosis seems to have a protective effect.

Overcoming cervical stenosis at ambulatory operative hysteroscopy

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Background

Successful hysteroscopy requires a cervical canal sufficiently dilated to allow passage of the hysteroscope. Failed ambulatory procedures are mainly attributed to operating technique, anatomical findings including cervical stenosis, structural abnormalities and patient related factors such as pain and intolerance. Many of the complications related to hysteroscopy: cervical tears, uterine false passage, uterine perforation, vaso-vagal reaction, pain and inability to complete the procedure, are due to inadequate cervical dilatation and inability to insert the hysteroscope. The level of pain experienced by the patient is a major determinant of the overall success of the procedure.

Methods

Data was collected prospectively from 301 cases of ambulatory cases of diagnostic and operative hysteroscopy performed in NHS Lanarkshire between October 2019 to April 2021. In our study, we used various methods for uterine entry: metal cervical dilators with intra-cervical analgesia, Myosure device resection of cervical fibrotic tissue, vaginoscopy with hydrodilatation and hydrodistension. Our technique of cervical dilatation using Myosure device consists of the following steps:

1. Direct visualisation of stenosed area using the operative Omni™ Hysteroscope with a 5.5mm sheath diameter.
2. Under direct visualisation, a Myosure device (3mm diameter) is passed through the stenosed cervix until the cutting window comes in close contact with identified fibrotic tissue
3. The area of fibrosis is cut with the hysteroscopic morcellator, rotating the cutting window as required.

A vaginoscopic approach was used, avoiding the need to introduce a speculum and tenaculum. Vaginal Instillagel was administered to all patients. No cervical preparation was used before the procedure. Subsequently, patients were asked to rank their pain during the procedure from 1 (lowest) to 10 (highest).

Results

Cervical dilation by a Myosure device was used in 90 of the 209 patients (43%), vaginoscopy was used in 78 (37%), metal dilators were used in 12 patients (5%) and hysteroscopic graspers were used in 7 (3%). The mean pain score for use of a Myosure device was 4(\pm 2.6), when compared with vaginoscopy the mean pain score was 4.2(\pm 2.3) $p=0.5$. Mean scores for metal dilators and graspers were 5(\pm 3.2, $p=0.29$) and 5.1(\pm 1.5, $p=0.12$) respectively.

Conclusions

The pain scores recorded for the patients where Myosure dilatation was performed are lower than the ones recorded in patients where other entry methods were used, including hydrodistension. The largest difference in pain scores was recorded when our technique was compared to use of metal dilators. The success rate for completion of procedure in our cohort was 97%. This technique is safe and reproducible. It is suitable for ambulatory operative hysteroscopy and is better tolerated by patients when compared to other entry methods

The use of Fusion imaging for identification of the anatomical landmarks of the posterolateral parametrium in patients with deep endometriosis

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Background

Magnetic resonance imaging (MRI) and ultrasound scanning complement each other in screening for and diagnosis of endometriosis. Fusion imaging, also known as real-time virtual sonography, is a new technique that uses magnetic navigation and computer software for the synchronized display of real-time ultrasound and multiplanar reconstructed MR images. The aim of this study is to show the feasibility and ability of fusion imaging to assess the anatomical landmarks of the posterolateral parametrium in patients with suspected deep endometriosis. The knowledge of Fusion anatomy of parametrial extension can help to correctly assess the local involvement of disease by imaging.

Methods

This prospective study was conducted over a 6-month period in patients referred to a trained sonographer for an ultrasound-based evaluation for endometriosis. Patients with a prior pelvic MRI examination within the past 6 months were offered fusion imaging. All MRI examinations were performed on a 1.5-T MRI machine equipped with a body phased-array coil. The Digital Imaging Communications acquired at the time of the MRI examination was loaded into the fusion system and displayed together with the ultrasound image on the same monitor. The sets of images were then synchronized manually using one plane and two anatomical reference points. The ability of this combined image to identify and assess the main anatomical structures of posterior parametrium of pelvic endometriosis (uterosacral ligaments, posterior vaginal fornix, rectum, ureters) was evaluated.

Results

Over the study period, 200 patients were referred for ultrasound examination because of endometriosis. Among them were 15 patients with median age of 35 (range, 27-49) who had undergone MRI examination within the past year, with a median (range) time interval between MRI and ultrasound examination of 87 (1-180) days. All 15 patients consented to undergo additional evaluation by fusion imaging. Data acquisition, matching and fusion imaging were performed in 30 min in each of the 15 cases. The anatomic entity commonly termed the "posterior parametrium" was identified as the conjunction of important anatomic structures (ligaments): the upper part of the posterior parametrium corresponds to the uterosacral ligament joining the uterine torus, while its lower part extends until pelvic floor muscle.

Conclusions

Fusion imaging is feasible for the assessment of posterolateral parametrium involvement in endometriotic patients. Because it combines information from both ultrasound and MRI techniques, fusion imaging allows better identification of the main anatomical landmark and has the potential to improve the evaluation of the posterolateral parametrium. Identification of these structures (containing autonomic innervations for pelvic viscera) may allow an accurate nerve-sparing surgical approach in many radical pelvic operations.

A new predictive model for ovarian metastasis of cervical adenocarcinoma: a retrospective study from a single center

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Background

It has been reported that young cervical adenocarcinoma patients without parametrial invasion (PMI), corpus uteri invasion (CUI), lymphatic vascular space invasion (LVSI), deep stromal invasion (DSI), lymph node metastasis (LNM) and with FIGO (2009) stage \leq IB1 could be considered for ovarian preservation in hysterectomy. However, in fact, many patients who do not meet all of these criteria have no ovarian metastasis (OM), which means that a large number of ovariectomies are of no value. Therefore, we intend to build a new prediction model to reduce the proportion of ovarian overresection.

Methods

Collect the clinicopathological data of patients with cervical adenocarcinoma (ADC) or adenosquamous carcinoma (ASC) in our hospital from 2014 to 2018, and conduct a retrospective study to explore the high-risk factors of ovarian metastasis, and to build a model according to the OR of each factor. Finally, this model was compared with the model reported in literature (old model) to test its advantages and security.

Results

934 patients were enrolled, in which 672 cases underwent adnexectomy and 262 cases preserved their ovaries according to the old model. In patients with adnexectomy, the rate of OM was 2.83%. The 5-year overall survival rate (OS) of patients without OM was 89.1%, and decreased to 28.5% with metastasis. The postoperative chemotherapy rate was 100% and the radiotherapy rate was 81.3% in patients with OM. Univariate analysis showed that tumor size $>$ 4cm (OR, 3.42), PMI (OR, 7.14), vaginal involvement (OR, 7.96), DSI (OR, 6.50), outer lateral wall of cervix invasion (OWI) (OR, 33.44), LNM to pelvic cavity (OR, 3.83), LNM to common iliac (OR, 8.90), LNM to paraaortic (OR, 14.24), positive vaginal margin (OR, 11.46), high-risk pathological type (OR, 12.9), CUI (OR, 16), plenty of LVSI (OR, 21.73) and tubal metastasis (TM) (OR, 23.09) were the risk factors of ovarian metastasis. The 13 risk factors were given scores according to OR, and the total scores were used to predict OM (cutoff: 12 scores). In terms of safety, compared with patients met the criteria of old model, the 5-year OS of patients scored \leq 12 was 91.7% vs 92.1%. In terms of prediction efficiency, the AUC, sensitivity and specificity of new model was 0.907, 92.5% and 87.2%, respectively, while was 0.633, 95% and 31.6% for old model.

Conclusions

The ovary with metastasis should be resected because radiotherapy and chemotherapy can not improve the poor prognosis. Compared with the old model, the new model has equal security and higher prediction efficiency and specificity. The ovary over-sacrificed rate was about 70% in the old model, and could be reduced to about 10% in this new model.

A novel Silva pattern-based model for precisely predicting recurrence in intermediate-risk cervical adenocarcinoma patients

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Background

To establish a novel Silva pattern-based model to precisely predict postoperative recurrence specific for the intermediate-risk group of cervical adenocarcinoma (AC) patients.

Methods

A total of 345 pathologically proven AC patients were classified according to Silva pattern as A, B or C, and their clinicopathological data and survival outcomes were assessed. Among them, 254 patients with only intermediate-risk factors were identified. To predict recurrence, significant cutoff values of four factors (tumor size, lymphovascular space invasion (LVSI), depth of stromal invasion (DSI) and Silva pattern) were determined by univariate and multivariate Cox analyses. Subsequently, a series of Silva pattern-based models, including four-factor, three-factor and two-factor models, were developed via various combinations of tumor size, LVSI, DSI and Silva pattern. The prediction performance of various models was evaluated by univariate Cox analysis, the log-rank test and receiver operating characteristic (ROC) analysis.

Results

(1) We confirmed the prognostic value of Silva pattern using a Chinese cohort of 345 AC patients. (2) We established Silva pattern-based models with potential recurrence prediction value in 254 intermediate-risk AC patients, including 12 four-factor models, 30 three-factor models and 16 two-factor models. (3) Notably, compared with the conventional Sedlis criteria, the four-factor model, which includes any three of four intermediate-risk factors (Silva C, ≥ 3 cm, DSI $>2/3$, and $>$ mild LVSI), exhibited better recurrence prediction performance and surpassed the other three-factor and two-factor models. (4) Of note, among the various combinations in the best model, when patients met the three factors of Silva C, ≥ 3 cm, and DSI $>2/3$, the model exhibited the best discriminating ability for recurrence.

Conclusions

Our study established a novel Silva pattern-based four-factor model specific for intermediate-risk AC patients, which has superior recurrence prediction performance compared with the Sedlis criteria and may better guide postoperative adjuvant therapy for AC patients.

Combined malformation of cervix and vagina and deep endometriosis in a 12 year old girl

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Background

We aimed to present a successful laparoscopic surgery combined with vaginal shears technique for a young girl with complex endometriosis accompanied with genital tract malformation.

Methods

The 12-year-old girl presented with cyclic lower abdominal pain (VAS=7) for 3 times, accompanied with nausea and vomiting. Para-anal examination showed a 10-cm cystic and solid mass locating within the pelvic. Pelvic MRI confirmed the presence of a 7cm-sized blood blot-like mass inside of her uterine cavity, cervical canal and bilateral ovaries.

Results

As the video showed, under laparoscope, complex endometriotic lesions were identified in her pelvic peritoneum, ovarian cysts and uterosacroligament. The swollen and sealed frimbriend of fallopian tube was opened and the chocolate-like fluid was squeezed out of fallopian tubes. The other endometriotic lesions were excised by using shaving technique. Shears technique was introduced vaginally. Even with the help of ultrasound, the neo-vagina was found difficult to be connected to the lower uterine stump. Then a small transverse incision was then made on the cervical stump, a tailored-trimmed catheter was introduced into the uterine cavity. Then neo-vagina was connected to the center part of cervical stump.

Conclusions

Deep endometriosis may be presented in girls as young as 12, which should not be overlooked. Genital tract malformation could prompt the growth of endometriotic lesions. Laparoscopic-assisted vaginal shears technique provides a novel strategy to deal with patients with complex endometriosis accompanied with genital tract malformation.

The potential value of haptic feedback in minimally invasive surgery for deep endometriosis

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Background

Laparoscopic treatment of deep endometriosis is associated with intra- and postoperative morbidity. New technological developments, such as haptic feedback in laparoscopic instruments, could reduce the rate of complications. The aim of this study was to assess the room for improvement and potential cost-effectiveness of haptic feedback instruments in laparoscopic surgery.

Methods

To assess the potential value of haptic feedback, a decision analytical model was constructed. Complications that could be related to the absence of haptic feedback were included in the model. Costs of complications were based on additional length of hospital stay, operating time, outpatient visits, reinterventions and/or conversions to laparotomy. The target population consists of women who are treated for deep endometriosis in the Netherlands. A headroom analysis was performed to estimate the maximum value of haptic feedback in case it would be able to prevent all selected intra- and postoperative complications.

Results

A total of 9.7 intraoperative and 47.0 postoperative complications are expected in the cohort of 636 patients annually treated for deep endometriosis in the Netherlands. Together, these complications cause an additional length of hospital stay of 432.1 days, 10.2 additional outpatient visits, 73.9 reinterventions and 4.2 conversions. Most consequences are related to postoperative complications. The total additional annual costs due to complications were € 436,623, amounting to € 687 additional costs per patient.

Conclusions

This study demonstrated that the potential value for improvement in deep endometriosis laparoscopic surgery by using haptic feedback instruments is considerable; mostly caused by the potential prevention of major postoperative complications.

SNARE protein VAMP7 regulated the autophagy of cervical epithelial cells in the progression of cervical cancer induced by HPV16 infection

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Background

This study was to investigate the molecular biological mechanism of the target protein VAMP7 in the process of HPV16 continuous infection leading to cervical cancer degeneration.

Methods

(1) Five groups of clinical samples were screened by proteomics mass spectrometry to search for meaningful biomarkers. WGCNA algorithm (weighted gene co-expression network analysis) was analyzed by bioinformatics to find out the key proteins of cervical lesions caused by HPV16 persistent infection. (2) Western blot and qRT-PCR were used to verify the expression levels of 8 key proteins in 5 groups of clinical samples and four cell lines of Ect-1, Siha, HeLa and C33a. (3) Immunohistochemistry was used to detect the expression of VAMP7 in 7 groups of cases. (4) For Ect-1, Siha, HeLa and C33a cell lines, the methods were used like CCK8, flow cytometry, transwell, transmission electron microscopy in frozen sections, western blot and qRT-PCR. (5) The subcutaneous tumor bearing animal model was established. The autophagy process was detected by transmission electron microscope and the expression of SNARE signaling pathway related proteins was detected by immunohistochemistry.

Results

(1) A total of 4368 proteins were identified by proteomic mass spectrometry. It was found that 8 proteins PRPF8, SNRNP200, PYCRL, VAMP8, NOLA1, SF3A3, PKM2 and VAMP7 may be related to HPV16-infected cervical cancer. (2) VAMP7 was determined as a target protein for subsequent studies to clarify its changes and mechanism in the progression of cervical lesions. (3) The expression of VAMP7 was down-regulated in HPV16 (+) non-tumor tissues in HPV16 infected tissues, while up-regulated in tumor tissues. (4) By regulating the expression of VAMP7, we found that knockdown of VAMP7 significantly inhibited the autophagy of cervical cells, while overexpression of VAMP7 promoted the autophagy of cervical cells. However, after affecting the autophagy process of four cell lines, the functional trend of Ect-1 cells and three kinds of cervical cancer cells was just the opposite. (5) Knockdown of VAMP7 inhibited tumor growth and autophagy in nude mice, and promoted tumor cell apoptosis. Overexpression of VAMP7 promotes tumor growth and autophagy in nude mice, and promotes tumor cell growth.

Conclusions

In the process of HPV16 persistent infection in cervical tissues, VAMP7 can promote the progress of cervical lesions and the growth of tumor cells and tissues by regulating the autophagy process, which provides the possibility for VAMP7 to become a new target for early intervention and treatment of cervical lesions.

Fertility sparing treatment in young women with Endometrial Cancer Grading G2: a new frontier in gynaecological oncology

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Background

Endometrial adenocarcinoma (EAC) represents the most common gynaecological tumor in developed countries. Routinely, young women with a diagnosis of complex atypical endometrial hyperplasia (CAEH) or grade 1 EAC with no myometrial invasion, who strongly want to present their fertility, are considered candidates for conservative management.

In the literature, data regarding this approach in women with moderately differentiated (grade 2 – G2) EAC Stage FIGO IA is lacking, although there are some studies reporting encouraging results in patients with G1-G2 endometrial cancer.

Our aim is to report the safety and effectiveness of the combination of hysteroscopic resection of the endometrial lesion followed by Levonorgestrel Intra Uterine Device (LNG-IUD) and/or oral megestrol acetate for the fertility-sparing treatment in patients with IA G2 EAC.

Methods

Eight patients with EC G2 (stage IA, endometrioid adenocarcinoma) wishing to preserve their fertility were enrolled in our case series. Patients underwent hysteroscopic resection with the three-steps technique, according to the technique described by Mazzon et al., that includes the removal of the exophytic tumor lesion (specimen 1), the removal of the endometrium adjacent (4-5 mm outside) to the lesion (specimen 2) and finally the removal of the muscle layer beneath (3-4 mm) the lesion (specimen 3). Adjuvant hormonal therapy consisting in oral megestrol acetate or LNG-IUD or combined therapy for 6 months or more was given to our patients.

Results

After 3 months from the progestin starting date, 4 patients showed a complete regression (CR) of the disease (50%). The remaining four patients showed a partial response (PR) to therapy, of which three showed G1 endometrioid adenocarcinoma (37.5%) and one patient an atypical endometrial hyperplasia (AEH) (12.5%). No patient presented with progressive disease (PD) or stable disease (SD).

At 6 months, the four patients with previous CR, confirmed CR to therapy with negative biopsy (50%) and they stopped progestin therapy to try to get pregnant.

Totally, 4 cases of relapse were observed respectively at 9, 12, 18 and 36 months, with a median time of relapse of 15 months. No one showed progression of disease. 3 patients (37.5%) achieved pregnancy, one of them spontaneously, while one patient is waiting for embryo transfer.

Conclusions

Fertility sparing treatment in patients with EC G2 is feasible, showed no disease progression and good CR rate. A fair pregnancy rate was observed in women attempting to conceive. Nevertheless, new trials are needed to clarify the medium- and long-term outcomes in this kind of patient.

The elegance and efficiency of Single Port surgery, Video demonstration of a step by step of single port hysterectomy using Thunderbeat with tips and tricks

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Background

Single port hysterectomy has been practiced with variable uptake over time. The evidence suggest that is feasible, safe, and effective as compared with conventional laparoscopic hysterectomy. It does require further expertise and achieves scarless surgery. This is case of single port hysterectomy of premenopausal nulliparous lady with abnormal uterine bleeding. The aim is to demonstrate the technique in a standardised steps with additional tips and tricks to achieve efficient surgery.

Methods

This is a case of 44 year nulliparous with abnormal uterine bleeding with 5 cm fibroid with strong blood flow on imaging suspicious of leiomyosarcoma. The uterus was 16 week in size and the pipelle indicated normal endometrium. Past medical history was not remarkable and her BMI was 23. She was counselled about the options and consented for hysterectomy via single access but opted to conserve her ovaries.

The surgery started by catheterisation and Vcare manipulator. The umbilicus was incised 2.5 cm vertically and direct access to the peritoneum under vision with enhanced 3.5 cm incision underneath, the edges were stabilised by Vicryl preserving the original position of the umbilicus for later reconstruction and approximation. Local anaesthetic infiltration of 20 ml of 0.25 Chirocaine was done in the umbilical wound. Alexis ring retractor was applied then GelPOINT advanced surgical platform over it, Thunderbeat was energy device was used to perform the routine steps of the procedure including colpotomy without the need to monopolar energy. Retrieval was achieved vaginally without morcellation and the vaginal vault was closed laparoscopically with a barbed suture. Additional 40ml of 0.25 Chirocaine was left in the abdominal cavity. On conclusion the umbilical wound deep layers were closed with Vicryl 1/0 J needle in double layer with the second layer aimed at the subcuticular tissues to achieve best reconstruction. The skin was closed with Vicryl rapide 2/0 interrupted

Results

The duration of the procedure was 50 minutes from knife to skin to conclusion by vault closure. There was no blood loss and the specimen was removed intact. The patient experienced minimal pain (3/10) at the umbilical area and discharged home in 24 hour and she was given one week of antibiotics, Senna, metoclopramide, clexan and gabapentin as part of the local enhanced recovery protocol. Follow indicated normal pathology and complete healing of the umbilical wound and vaginal vault and complete resumption of functions.

Conclusions

Surgery is a calculated injury to the anatomy, physiology and the psychological well being of the patient to achieve a specific target. in that context Single port surgery achieves one efficient access to the peritoneal cavity to the conclude the purpose of the surgery. Additional ports do represent additional risks however this kind of technique needs additional expertise in eye hand coordination and instrument triangulation.

Reflections on doing V-notes hysterectomy for endometrial cancer in extreme morbid obesity

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Background

Vaginal natural orifice surgery is a novel evolving concept that is applied in gynaecology. The concept can have the extended benefit to perform hysterectomy and surgical staging for low grade early stage endometrial cancer. In cases of high body mass index, this can have both advantages of avoiding the post operative morbidity of open surgery and bypassing the technical challenges and access difficulty with longer operative time in laparoscopy. This is a case of 53y diabetic lady with endometrial cancer and BMI of 55 that had a Vnotes hysterectomy with reflections on the perioperative care and intraoperative technique.

Methods

This case was diagnosed after hysteroscopy under GA with endometrial cancer following postmenopausal bleeding. She had previous left salpingoophorectomy and laparoscopic cholecystectomy and one normal premature vaginal delivery. She has BMI of 55 with ASA3; with type2 diabetes, asthma and rheumatoid arthritis and limited mobility. Imaging indicated stage 1A with 14 week uterus and anterior fibroid. She was counselled about surgery and consented for Vnotes approach. The technique started after positioning in lithotomy and catheter in then cervical circumcision, securing the uterosacral ligaments and opening the posterior compartment before insertion of the Alexis ring retractor. The GelPOINT advanced surgical platform was applied. The anterior compartment was opened under laparoscopic vision. It was difficult to get head down position and the pneumoperitoneum was only possible at 8mmHg. A swab with a tail was put in to retract the bowel. CombiAdTec bipolar device was used for energy applications. On conclusion of the hysterectomy the vagina was closed with overrunning the edges and approximated the uterosacral ligaments. A catheter and pack was left in at the end of the procedure.

Results

The surgical time was 120 minutes with a full immediate recovery afterwards but pain and swelling at the perineum. She was discharged home after 24 hours with one week course of gabapentin, metoclopramide, senna, antibiotics and extended course of clexan for four weeks. She had deep perineal and vaginal pain and swelling and given antibiotics on week 2 postoperatively; assessment then indicated some degree of vaginitis and bruising. On week 4 postoperative review resolution of symptoms was noted.

Conclusions

The operation was concluded through Vnotes successfully, however the excess adipose with difficult vaginal access caused vaginal bruising and tissue inflammation that resolved conservatively. Applying ice pack on the perineum postoperatively could have helped in the enhanced recovery. The swab was useful in retracting the bowel when applying energy to seal and divide the uterine and adnexal attachments. The strategy was to do the procedure in small steps. The vaginal route proved less traumatic than laparoscopic or open approach; however vaginal trauma can be an adverse effect of this technique if excessive stretch or traction was applied.

FREE COMMUNICATIONS VIDEO

ES30-0003 -

Fibroids, including morcellation OR tissue extraction

Uterine arteries clipping during laparoscopic myomectomy

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Background

The aim of this work was to minimize the amount of blood loss during laparoscopic myomectomy, in cases already suffering from anaemia due to menorrhagia, and to let the surgeon works at ease and suture the scar efficiently.

Methods

It was a prospective study done during a two years duration, the patients included were, virgin and married, the age group between 19- 40 years, suffering from menorrhagia 8-12 days with more than 5 pads daily, their anaemias were between 5.5-9.5 grams of hemoglobin, they were 170 cases 85 have been done by uterine artery clipping, and the other group have been done by either injection of vasopressin or with conventional step by step haemostasis using bipolar.

Preoperative Laboratory investigations, U/S, doppler and 3 D assessment and MRI done to assess the count, position, blood flow and relation to the cavity.

Medium sized clips that been used during laparoscopic cholecystectomy, two on each uterine, the point of exploration is that exactly the point of cross between the uterine vessels and the ureter.

The clips were removed in all cases looking for fertility, and left in cases with completed family size.

Results

The results were as follow, the average blood loss in the first group was 30-150 cc, while in the second group was between 250-800 cc with almost 85% reduction rate in the blood loss.

Reduction in the operative time about 30 %.

Reduction in blood transfusion need by 50%.

Reduction in deep pelvic pain symptoms and complaints in cases with congested varicosities in 18 out of 20 cases, 90%.

Conclusions

For sure by mastering the uterine arteries clipping safely, minimize the blood loss, and make the surgeon at ease during suturing that enhance the learning curve of laparoscopic myomectomy.

<https://player.vimeo.com/video/559377793?autoplay=1>

Robot-assisted laparoscopic hemihysterectomy for an unicornuate uterus with a functional non communicating horn

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Background

Demonstration of a robotic approach for resection of a noncommunicating rudimentary horn through a video presentation.

Methods

Unicornuate uterus account for just 5% of the Mullerian anomalies. Most unicornuate uterus are accompanied by non-communicating rudimentary horns being rare the presence of a functional endometrium.

As a rudimentary horn with a functional endometrium is at risk of dysmenorrhea, pelvic hematometra, infertility or ectopic pregnancy surgical treatment is indicated. Rudimentary horn pregnancy is rarer still, resulting in the rupture of the horn by the second trimester in 80–90% of all cases.

When the diagnosis is obtained the surgical option in these cases is to remove the rudimentary uterus with endometrium and hematometra, respectively.

Our patient is a 30-year-old nulliparous woman referred to our center for chronic pelvic pain and constipation. The MRI reports a rudimentary non communicating left uterine horn distended and occupied by a large hematometra (13 x 5 cm). The right hemi uterus shows a normal endometrium. Vagina and ovaries were appreciated as normal. No urinary malformations were detected. A hysteroscopy was performed before surgery showing a normal vagina and cervix with one uterus cavity and only one tubal ostium, there was no evidence of communication of the rudimentary horn.

Results

A total robot-assisted laparoscopic hemi-hysterectomy was performed with several key strategies to minimize the damage of the contralateral myometrium and to ensure the complete excision of the functional endometrium of the rudimentary horn. The surgery is synthesized in the following steps:

1. Lateral peritoneum dissection and detachment of the left ovary
2. Opening of the rudimentary cavity in order to evacuate the hematometra
3. Controlled excision of the myometrium and cervix identification
4. Closure

Conclusions

Our patient presented a full recovery. A 6-week postoperative ultrasound showed a normal uterine cavity and did not reveal any complications. In conclusion, the excision of a non-communicating rudimentary horn should be performed with caution to avoid the retention of functional tissue. The treatment of a rudimentary horn and the consequent uterine reconstruction are feasible with minimally invasive surgery.

<https://player.vimeo.com/video/530436493?autoplay=1>

Laparoscopic management of symptomatic cesarean scar defect

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Background

This is a case report of a 34-year-old woman with a cesarean scar defect who previously underwent an emergency cesarean section due to premature placental abruption.

The patient complained of dysmenorrhea, postmenstrual spotting, chronic pelvic pain and recurrent miscarriages. Patient had a wish to conceive.

A transvaginal sonography revealed a niche (sizes 9.3*23*5mm) in the area of the scar and the residual myometrium was not visualized, the defect was covered only by plica vesico-uterina

Methods

Taking into account the ultrasound data and patient's clinical presentation, there were indications for endoscopic isthmocele repair. During the hysteroscopy the interruption and indentation of the myometrium in the area of isthmus were detected. The morphological abnormalities of niche were the following – the presence of crypts, cystic formations, fibrotic tissue, and mucus. Second step was laparoscopy. The bladder was attached to isthmus. At first, the bladder was dissected by using bipolar forceps and scissors. The dissection was performed from lateral to medial area. The lowest level of dissection was 15 mm from the scar edge, the side borders were the uterine arteries. Afterwards the scar was excised. Finally, the uterine wound was sutured in two layers. The last step was peritonization.

Results

The post-operative course was uncomplicated. We urged the patient to use contraceptives for 6 months after the intervention to allow the uterine scar to heal properly.

At 6-month follow up the patient experienced no abnormal bleeding, dysmenorrhea and pelvic pain. The ultrasound examination revealed no evidence of niche presence and the myometrial thickness was more than 1 cm.

The patient achieved pregnancy 10 months after surgery and finally was delivered at term by caesarean section. At the moment the child is alive and healthy.

Conclusions

When indicated, the laparoscopic isthmocele repair is a mini-invasive and adequate procedure that gives a satisfactory result.

<https://player.vimeo.com/video/539134400?autoplay=1>

**ES30-0022 -
Hysteroscopic Surgery**

Ultrasound-guided hysteroscopic metroplasty

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Background

Septate uteri are found in 1 to 15 per 1000 women and are associated with pregnancy complications. Some gynaecologic procedures are more challenging or contraindicated in women with uterine septum including non-resectoscopic endometrial ablation and insertion of intrauterine devices.

Methods

This video abstract demonstrates simultaneous use of pelvic ultrasound and hysteroscopy to resect uterine septum.

Results

Ultrasound-guided hysteroscopic metroplasty was demonstrated.

Conclusions

Ultrasonography is a useful tool that can be added to hysteroscopic metroplasty. It improves visualization during resection of uterine septum and has been demonstrated to increase the rates of complete resection.

<https://player.vimeo.com/video/542197928?autoplay=1>

Tubal flushing with oil-based contrast during transvaginal hydrolaparoscopy, a case report

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Background

As part of the fertility work-up, a hysterosalpingography (HSG) is often performed to test tubal patency. Meta-analyses have shown that an HSG with oil-based contrast has a positive effect on the natural conception rate, compared to water-based contrast (Wang, 2020). THL is an alternative procedure to test tubal patency. The benefit of THL is the possibility to explore the tubo-ovarian structures and the pouch of Douglas, neither evaluated during an HSG. However, during a regular THL procedure, a water-based medium (methylene-blue) is used instead of an oil-based medium. The objective of this case report is to determine the feasibility of additional tubal flushing with oil-based contrast during transvaginal hydrolaparoscopy (THL).

Methods

Case report with video assessment. A healthy 29-year-old with primary unexplained subfertility, underwent a THL under local anesthesia. She had no history of abdominal surgery or sexually transmitted diseases and a negative chlamydia antibody titre. First, chromopertubation was performed by the use of 6mL methylene-blue. After tubal patency was established, tubal flushing with 3mL oil-based contrast (Lipiodol® UltraFluid, Guerbet) was performed. The spill of both media from the tubal fimbriae could be directly visualized during the THL, and was recorded on video.

Results

The Fallopian tubes were patent to methylene-blue as well as to oil-based contrast. No abnormalities of the Fallopian tubes or the abdominal cavity were seen during the THL procedure, which was recorded on video. Remarkable was that when the methylene-blue spilled from the Fallopian tube, it immediately dispersed in the saline solution, without forming a droplet. The oil-based contrast came out of the Fallopian tube in the form of free droplets with strong internal bonding. Furthermore, when the first droplet of oil-based contrast moved out of the scope of the camera during the THL procedure, some residue of the droplet was visible on the surface of the peritoneal wall in the form of micro-droplets. It is likely that this sequence of events also happens inside the Fallopian tube. The residue of oil-based contrast inside the Fallopian tube and in between the cilia may enhance the cilia movement, by introducing lubrication in between the cilia of the tubal epithelium. This lubrication effect of oil-based contrast is one of the hypotheses for the fertility enhancing effect of tubal flushing.

Conclusions

We present the first case in which additional tubal flushing with oil-based contrast was performed during THL. The direct observation of the oil-based contrast residue on the peritoneal wall is an important step in gaining more knowledge on the characteristics of oil-based contrast and its fertility enhancing mechanism. However, more research is necessary to determine the feasibility, safety and effect on pregnancy rates in more patients.

<https://player.vimeo.com/video/545413070?autoplay=1>

Robot-assisted exploration of somatic nerves in the pelvis and transection of the sacrospinous ligament for Alcock canal syndrome

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Background

Alcock canal syndrome is an uncommon source of chronic pelvic pain, in which the pudendal nerve is entrapped or compressed. Pain is located in the perineal, genital and perianal areas and is worsened by sitting. Where medical treatments are not successful in relieving symptoms, surgical treatments may be tried. In 1993, Robert et al. has described the transgluteal approach for neurolysis of the pudendal nerve at the infrapiriform foramen and transection of the sacrospinous ligament. Later, laparoscopic transperitoneal approach is considered as a feasible technique for the diagnosis and treatment of anogenital pain caused by pudendal and/or sacral nerve root lesions. However, there are no reported use of robotic platform for the treatment of Alcock canal syndrome. Therefore, the objective of this video is to describe anatomical and technical highlights of robotic exploration of somatic nerves in pelvis and transection of sacrospinous ligament (nerve decompression) for the patient with Alcock canal syndrome.

Methods

A 48-year-old woman was referred for severe sitting pain, cyclic pelvic pain, gluteal and perineal pain, all of which were resistant to medication therapy. MRI revealed adenomyosis with neither deep endometriosis nor vascular entrapment. Based on neuropelvic evaluation, the patient was suspected to be suffering from Alcock canal syndrome due to compression of the pudendal nerve (and posterior cutaneous nerve of the thigh) by the sacrospinous ligament. Therefore, we planned to perform a robot-assisted surgical management of her pain. Excluding the step for hysterectomy, the procedure was performed using the following 9 steps: Step 1, opening the peritoneum; Step 2, exposure of the external iliac artery; Step 3, development of the lumbosacral space; Step 4, identification of the lumbosacral trunk; Step 5, identification of the superior gluteal nerve; Step 6, identification of the sciatic nerve; Step 7, identification of the inferior gluteal nerve; Step 8, identification of the pudendal nerve; and Step 9, transection of the sacrospinous ligament.

Results

The surgery was successfully completed without any complications and the postoperative course was uneventful. During surgery, we could easily and safely identify the somatic nerves in the pelvis and transect the sacrospinous ligament using robotic system which provided surgeons with a greater range of instrument movement, enhanced dexterity, and improved 3-dimensional visualization. On follow-up visits, the patient reported gradual decreased in pain in postoperative 1st and 3rd months, and finally the neuralgia was completely resolved in the 6th month. Neuropelvic evaluation still continues every 6 months.

Conclusions

When needed, minimally invasive techniques are applied for exploration and treatment with neuropelvic assessment. Robot-assisted transection of the sacrospinous ligament is feasible, safe technique for selected patients with Alcock canal syndrome. Laparoscopic exploration of pelvic nerves should be performed for further diagnosis and therapy before prematurely labeling the patient as refractory to the treatment.

<https://player.vimeo.com/video/541437879?autoplay=1>

**ES30-0050 -
Laparoscopic surgery**

Resection of diaphragmatic endometriosis

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Background

There is a vast variety in the appearance of endometriosis. A precise history is essential in finding the correct diagnosis. In this case, we present a thirty year old patient with cycle- dependend right shoulder pain at deep inspiration. Therefore, a diaphragmatic endometriosis was suspected. We planned an MRI preoperatively, which confirmed our suspected diagnosis.

Methods

A preoperative MRI was performed, following by laparoscopic resection with low pressure pneumoperitoneum. After complete mobilisation of the right liver, resection was started with a monopolar needle, then switched to bipolar scissors in order to reduce diaphragmatic contractions while operating. The defect of the diaphragm was closed with a continuous stratafix 1-0 suture.

Results

History of endometriosis was confirmed. The patient recovered uneventfully, the postoperative pneumothorax resolved spontaneously without any drainage. The patient could be discharged from hospital at the third postoperative day. The Enzian score was p2, f, g3, rASRM 3.

Conclusions

In endometriosis, when diaphragmatic resection is needed positions of the trocars need to be placed optimally in order to reach all parts of the diaphragm. Additional liver mobilisation might be necessary as in the demonstrated case. When the pleural cavity must be opened for complete resection low pressure pneumoperitoneum is very helpful. Most defects of the diaphragm can be closed with a running suture using a strong monofilament thread. Drainage of the pleural cavity is not needed.

<https://player.vimeo.com/video/560153367?autoplay=1>

Endometriosis: challenging robotic surgical approaches

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Background

Endometriosis is a chronic condition with a highly variable phenotype. When medical therapy fails, a minimally invasive approach using laparoscopy is considered the gold standard.

However, there are surgical difficulties related to the technical limitations of classical laparoscopic approach for deep endometriosis and they might be overcome with the use of robotic assistance.

Study Objective: Demonstrate challenging endometriosis treatments performed via robotics.

Methods

Sequential description of surgical approaches for endometriosis, with exposure of landmarks for a safe robotic surgery through narrated footage.

Description of four endometriosis challenging surgeries, including obliterated cul-de-sac, bladder endometriosis, diaphragm and liver endometriosis and endometriosis of the appendix.

Results

Sequence of robotic-assisted laparoscopic surgeries described as follows:

Obliterated cul-de-sac: important identification of anatomical landmarks because of blocked pelvis; adhesiolysis and retroperitoneum opening to access the ureter and Latzko space; identification and release of endometrioma from the pelvic wall and rectum, with a direct ureter visualization; drainage of endometrioma; colpotomy for specimen extraction.

Bladder endometriosis: cystoscopy with double J insertion; visualization of endometriosis lesion in the anterior pelvic compartment through robotic intra-abdominal view; access to vesicouterine space; opening of vesical wall until the mucosa and resection of the endometrioma; urethral specimen extraction and bladder suture.

Diaphragm and liver endometriosis: upper abdominal robotic docking; dissection of diaphragmatic peritoneum carefully surrounding lesion, with unavoidable opening of chest cavity; diaphragm repair through absorbable suture, in single simple stitches.

Endometriosis of appendix: opening of meso-appendix with careful coagulation; adequate appendix individualization until its base; appendectomy performed with the linear stapler; specimen removed with bag protection.

At the end of procedures, complete and safe resection of the lesions were ensured.

Conclusions

Robotic approach can be an alternative to laparoscopy especially in advanced and complex cases in deep endometriosis.

<https://player.vimeo.com/video/548833623?autoplay=1>

**ES30-0054 -
Laparoscopic surgery**

A case of pelvic inclusion cyst (PIC) associated with kidney injury

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Background

To raise awareness of PIC and importance of multidisciplinary team (MDT) management.

Methods

A case report. Patient's consent was obtained to present and publish this case.

Results

A 37 year-old patient presented with macroscopic haematuria and found to have a left sided hydroureter and hydronephrosis. MRI pelvis was requested and demonstrated bilateral cystic adnexal masses inseparable from the ovaries. Biochemistry studies revealed raised creatinine of 118 umol/l and negative tumour markers. Patient did not have gynaecological symptoms but had a history of endometriosis and ovarian cyst drainage and one caesarean section in the past. Multidisciplinary discussion took place and patient was scheduled for a joint procedure with the urology team. Intraoperatively, a dilated tortuous left ureter was found during ureteric stenting. Laparoscopic findings were distorted pelvic anatomy and a large PIC in the pouch of douglas extending to the left pelvic side wall. Ovaries were part of adnexal masses. There were omental adhesions to the anterior abdominal wall including small bowel. Adhesiolysis was performed, adnexal masses were mobilised, serous fluid was drained. Cyst walls were dissected and sent for histopathology. Patient recovered well post surgery, creatinine levels came down to 88 umol/l in a three-month time and histopathology demonstrated a fibrous tissue. Patient was offered depo-provera for suppression of ovarian ovulation.

Conclusions

PIC can mimic ovarian cyst and can be associated with kidney injury, therefore timely treatment is important. Different treatments were described but laparoscopy remains the best diagnostic tool as it provides biopsy and establish a definitive diagnosis. This case confirms that MDT input is essential for the successful outcome. Clinicians should consider PIC as a differential diagnosis in women of reproductive age with a history of previous surgery, endometriosis or pelvic inflammatory disease.

<https://player.vimeo.com/video/549458877?autoplay=1>

Laparoscopic hysterectomy with bilateral adnexectomy, using Ligasure Maryland device

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Background

We presented a laparoscopic hysterectomy with bilateral adnexectomy, using Ligasure Maryland device. And aimed to assess dissection and coagulation ability of the device.

Methods

Our case is a 48 year old patient, presented with irregular vaginal bleeding. She had one previous cesarean section, and no major medical co-morbidities or other abdominal surgery. Pap-smear results showed AS-CUS and colposcopic biopsy also resulted CIN3. We decided to perform a laparoscopic hysterectomy with bilateral adnexectomy as the patient didn't have a desire for conception. We performed the operation, using a ligasure Maryland device, by identifying anatomical landmarks. Isolating the uterine artery is essential as it provides hemostasis and reduces the incidence of potential injury to ureter. The peritoneum was incised medially and parallel to the IP ligament. The ureter was identified on the medial leaf of the peritoneum. Dissection was performed parallel to the course of ureter. The uterine artery was isolated and dissected from the ureter at this point and ligated. We continued with coagulating and cutting the left round ligament. The ligasure Maryland tool is very efficient and allows for a very precise dissection. We moved towards the anterior leaf of the broad ligament up to the vesicouterine space and dissect the bladder. We also used gauze to clear the surgical area. As we didn't want to remove the ovaries, assistant grasped the tube and we coagulated and cut the ovarian suspensor ligaments. We exactly did the same things on the right side and we coagulate and cut the uterine artery. We used a Rumi-II uterine manipulator and a monopolar hook to perform colpotomy. We made sure that we preserved sacrouterine ligaments. After the vagina was totally open we removed the specimen through the vagina. Using an absorbable multifilament no:1/0 suture, we closed the vagina laparoscopically.

Results

Identifying anatomical landmarks such as ureter, obliterated umbilical artery and uterine artery is very important to avoid complications. In our case the uterine artery was accessed at its origin in the area between the hypothetical triangle made by the round ligament anteriorly, external iliac vessels laterally and the ip ligament medially. So far as the uterine arteries were ligated at their origin there were no significant bleeding through the operation. And as the ureter was identified, we minimized the risk of ureter injury.

Conclusions

Isolating the uterine artery can be performed safely and efficiently with a proper knowledge of the anatomy, and the use of appropriate devices. It is essential as it provides hemostasis and reduces the incidence of potential injury to bladder and ureter. Ligasure Maryland device is a useful device for retroperitoneal dissection and ligating of vessels.

<https://player.vimeo.com/video/549478574?autoplay=1>

**ES30-0056 -
Complications in surgery**

Laparoscopic primary rectal injury repair without colostomy

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Background

After accidental rectal injury during gynaecologic surgery, same session repair is the best option. We will demonstrate methods to repair the bowel after inadvertent injury that do not require colostomy.

Methods

From January 2010 to December 2020, 7154 patients underwent laparoscopic or robotic hysterectomy for benign pathology. Of these patients, 21 cases suffered an intraoperative rectal injury that may normally be recommended for colostomy. Videos of these cases were reviewed. All 21 cases were managed by same-session intraoperative bowel repair. Colostomy was performed in only one case where multiple bowel injuries occurred during vaginal retrieval. All other cases were repaired in the same session with no pan-peritonitis after the original surgery.

In this technique, the bowel is sutured in two layers. Needle driving must be precise with both the driving and pull-through perpendicular to the bowel wall. Precise and consistent tissue involvement needs to be across all sutures. The seromuscular suture is placed to push the mucosa into the lumen. LAR was required in one very severe case. When extensive resection is required, a double stapling technique is performed for effective anastomosis. After the damaged cut end of the rectum is trimmed, an anvil and stapler are placed and fired for a seamless result. Informed consent was obtained from patients to use their data for educational purposes.

Results

One case experienced leakage from the repair site and this was resolved with drainage and no colostomy was required. All other patients had an event-free recovery.

Conclusions

By adopting good bowel repair techniques, it is possible to repair the rectum without colostomy. Although suture repair training is required, sound repair can lead to a colostomy-free result, which is better for the patient.

<https://player.vimeo.com/video/549576948?autoplay=1>

Identification of paravaginal part of ureter and paravaginal mesh fixation during laparoscopic sacrocolpopexy – an important step to avoid anterior recurrence. A surgical video

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Background

Laparoscopic sacrocolpopexy has been demonstrated to be the gold standard of prolapse surgery in cases with apical defect. Isolated anterior compartment failure can occur especially if paravaginal defect has initially been present. According to our and other results anterior recurrence can occur in up to 10% of cases and additional surgery is needed in about 5-6%. In the last 3 years we adapted our technique of lateral fixation of the anterior mesh during laparoscopic sacrocolpopexy to reduce the risk of anterior recurrences and the first results are very encouraging.

Methods

The video demonstrates the cases of a 54 year old patient undergoing laparoscopic sacrocolpopexy because of combined prolapse. After accomplishing supracervical hysterectomy and posterior dissection, the anterior dissection is started by opening the vesico-vaginal space and separating the bladder from the vagina till the level of the bladder trigone. Lateral dissection is performed by opening the paravaginal space and exposing the lateral edge of the vagina. The distal part of the ureters is dissected from the anterior parametrium to the bladder to avoid ureteral damage. The anterior mesh is then sutured to the distal vaginal in the midline and laterally to the edge of the vagina. Posterior mesh is sutured on the levator ani muscle and the cervix. Both meshes are fixed at the longitudinal ligament of the promontory to guarantee a tension free suspension. At the end a fully peritonealization is performed.

Results

Perioperative results of laparoscopic sacrocolpopexy with deep and lateral mesh fixation are excellent. As we are following all our patients after laparoscopic sacrocolpopexy we can report on a significant improvement of anatomical outcome in the anterior compartment at least in the short term follow up.

Conclusions

Lateral dissection and mesh fixation in the anterior compartment during laparoscopic sacrocolpopexy seem to be feasible and safe and could help to significantly reduce the risk of anterior recurrences. Prospective anatomical evaluation must be performed to scientifically verify these promising initial results. This video demonstrates the surgical technique which has become standard in our institution.

<https://player.vimeo.com/video/549610382?autoplay=1>

Bowel-free para-aortic and pelvic lymphadenectomy- the retroperitoneal approach

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Background

We will demonstrate our minimally invasive para-aortic and pelvic lymphadenectomy using the retroperitoneal approach. In this procedure, dissection from the renal vein to the circumflex iliac vein is carried out extraperitoneally for cases with endometrial cancer, selected cases of ovarian cancer and in rarer situations, for advanced cervical cancer cases as a staging procedure.

Methods

More than 900 cases have undergone laparoscopic or robotic extraperitoneal para-aortic dissection at our institute. 19 of these cases have also undergone extraperitoneal pelvic lymphadenectomy. The extraperitoneal approach is performed using a 5mm EndoTIP cannula. We place all 4 retroperitoneal ports along the left flank. For dissection we use a monopolar hook equipped with an aspiration device and advanced bipolar for retroperitoneal dissection. Informed consent was obtained from patients to use their data for educational purposes.

Results

The estimated blood loss for para-aortic dissection was 30ml, and 160ml in the pelvic procedure. Three cases of the total 900 cases required a conversion to open laparotomy. In 23 cases, the peritoneal tent was perforated, and the hole suture-repaired before continuing the procedure.

Conclusions

As the peritoneum acts as a natural retractor, the operative field is bowel-free. This means that there is minimal impact to the bowel and a lower risk of inadvertent injury. Another advantage of this procedure is that patients are not required to be placed in a deep Trendelenburg position. Extensive intraperitoneal adhesion cases have been successfully managed with this procedure making it a patient friendly option.

<https://player.vimeo.com/video/549801969?autoplay=1>

**ES30-0068 -
Technical innovation in minimal invasive surgery**

A no-monopolar technique for difficult dissection cases

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Background

To show the applications and advantages of the double bipolar method in challenging operative scenarios in minimally invasive gynaecology.

Methods

From December 2018 to April 2021, 485 robotic surgeries using the double bipolar method in a variety of procedures such as hysterectomy for benign pathology, robotic sacro-colpopexy and para-aortic and pelvic lymphadenectomy for cervical and endometrial cancer were performed. The double bipolar method provided the advantage of pinpoint dissection with minimal thermal spread in surgical situations such as severe Douglas Pouch adhesion or bladder adhesion, transperitoneal lymphadenectomy and extraperitoneal para-aortic and pelvic lymphadenectomy and nerve-sparing radical trachelectomy. These challenging procedures require the elucidation of fine structures and well as accurate separation of adhered organs. The double bipolar method is accurate, powerful and efficient with minimal thermal spread. Informed consent was obtained from patients to use their data for educational purposes.

Results

One patient with extensive adhesion due to a previous surgery required re-surgery due to postoperative peritonitis. All other patients recovered quickly and without complications.

Conclusions

Monopolar scissors are standard robotic equipment in gynaecology. Although monopolar scissors allow for good quality dissection, thermal spread is possible a concern. As thermal spread is known to be the main source of intraoperative injuries and post-operative complications, reducing this however possible is important. The double bipolar method not only offers pinpoint accuracy, but also the cutting mechanism has minimal thermal spread, which is desirable, especially when dissecting ultra-fine structures.

<https://player.vimeo.com/video/549807648?autoplay=1>

Anatomy of the pelvic autonomic nerves and its application in radical rectal surgery

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Background

It is well established that segmental rectal resection is associated with the risk of Lower Anterior Resection Syndrome (LARS). The risk may be reduced by a nerve-sparing approach. There is no clearly defined approach to a nerve-sparing segmental rectal resection: this video demonstrates the cadaveric autonomic neuroanatomy as well as a structured laparoscopic in vivo approach to rectal autonomic nerve preservation.

Methods

Most nerves run along the conjoined muscle layer of the rectum, having originated in the inferior hypogastric plexus. The sympathetic nerves provide for motility and the major part of innervation to the internal anal sphincter. The parasympathetic nerves provide for motility, sensation and a minor part of innervation to the internal anal sphincter.

Results

The parasympathetic long splanchnic nerves arise from the ventral nerve roots of S2-4 which pierce the sacral hypogastric fascia to join with the sympathetic supply from the inferior hypogastric nerve to form the inferior hypogastric plexus. The medial part of this forms the rectal plexus which contains parasympathetic and sympathetic fibres. These pass from lateral to the rectum in the neuromuscular bundle of the middle rectal artery 10-15 mm inferior to the top of the rectovaginal septum. The sympathetic supply is derived from T10-12 and initially forms the superior hypogastric plexus above the pelvic brim. It continues inferiorly as the inferior hypogastric nerve(s) to form the inferior hypogastric plexus (vide supra). A further minor sympathetic supply is derived posteriorly from the bilateral sympathetic chain running anterolateral to the vertebrae.

Conclusions

A nerve-sparing approach must include the visualisation and attempted preservation of the inferior hypogastric nerve, the sacral sympathetic chain, the S2-4 long splanchnics, the rectal plexus and the middle rectal neuromuscular bundle.

<https://player.vimeo.com/video/549850458?autoplay=1>

Strategy for laparoscopic total hysterectomy and bilateral salpingectomy for enlarged uterus

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Background

We presented a laparoscopic hysterectomy for an enlarged uterus by using Ligasure Maryland device and how to manage the surgical strategies according to the intraoperative situations.

Methods

Our case is a 42 year old patient and her complaint was hypermenorrea and pelvic pain in her regular menstrual cycles. she has a history of a sleeve gastrectomy and cesarean section for once. There was an 8 cm myoma uteri that deplassing the endometrial cavity. We decided to perform laparoscopic hysterectomy with bilateral salpenjectomy. In this surgery, we used 4 ports, 3 of which are 5mm, and we placed the camera port from the lee-huang point due to uterine size. We performed the operation, using a ligasure Maryland device. At the beginning of the case, we planned to do retroperitoneal dissection but that was impossible because of the uterus size. But in this case we had to change the plans. Then we continued the operation with adnexial ligation from the bottom of the uterus. Then we performed round ligament ligation and found the vesicouterine peritoneal cleavage. We use Rumi-II uterine manipulator in this case. In our standard technique, we apply sketelization before uterine artery ligation. After completing the uterine artery ligation bilaterally the colpotomy area was seen easiliy. We performed the colpotomy by using monopolar coagulation system. Since the uterus did not come out of the vagina, we preferred to perform myomectomy first. Using a barbed suture no:0 suture, we closed the vagina laparoscopically.

Results

Large uterine size is not an obstacle to laparoscopic approach if you have the appropriate surgical strategy. Most of the possible surgical difficulties are solved with the use of high-level camera ports like lee-huang point and the use of 30 optical cameras. In our technique, proper dissection of the retroperitoneal area is required in all cases for a safe surgical approach. Especially ligating the uterine artery proximally and seeing the ureter trace will prevent most of the possible complications. But In this case, the safest approach to do is to cut the uterine ligaments by performing surgical dissection from the closest to the uterus. Once the uterus is free, the surgery will be easier to complete.

Conclusions

Dissection of the retroperitoneal area reduces the incidence of potential injury to bladder and ureter. However, with an enlarged uterus that completely fills the pelvic area, dissection may be impossible and may increase the risk of bleeding complications. In this case, change your strategy and revert to the simplest surgical approach.

<https://player.vimeo.com/video/549873662?autoplay=1>

The safety and efficacy of electrothermal bipolar vessel sealing device in laparoscopic myomectomy

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Background

We presented a case of laparoscopic myomectomy to imply the safety and efficacy of electrothermal bipolar vessel sealing device (Ligasure Maryland device), and the advantages of using a laparoscopic tenaculum. Also we suggest that some methods like vasopressing injection and uterine artery ligation is not essential, and may not be needed to perform in every case.

Methods

We present a case of a 35 year old nulliparous, virgin patient, who presented with heavy menstrual bleeding. She had no major medical co-morbidities or previous abdominal surgery. Ultrasonographic findings suggest 8 cm of intramural myoma located fundal anteriorly and 2 to 3 cm of subserous myomas located posteriorly. We decided to perform laparoscopic myomectomy.

We look at our landmarks such as the tubes, and round ligaments to locate the intramural myomas and to decide where to make our incision which should be parallel to our needle holder.

We use monopolar coagulation to make dissection down to capsule of the myoma. Just after reaching the myoma we have two tools for traction such as corcscrew and tenaculum. The advantage of tenaculum is that you can easily change the location where you bite, you can pull stronger. Ligasure Maryland tool helps us to cut and coagulate the capsule when we apply traction to the myoma. So if you want to reduce tissue damage; appropriate traction, coagulation and cutting procedures are very important. We pay attention to minimize the use of coagulation of myometrium to reduce the risk of dehiscence.

In suturation of the myometrium, it's very important to close dead space in myomectomy. In this case we perform multilayer closure. Two layers are closed with a continuous technique using v-loc barbed suture. For the superficial layer we perform baseball suturing technique, and finish myometrial closure.

We use Storz's power morcellation device. After irrigation and aspiration we ended the operation.

Results

Preoperative hemoglobin levels were 11,2 grams per deciliters, while postoperative levels were 10,6, with a total operation time of 95 minutes. The final pathology report revealed myoma. The patient was discharged the next day.

Conclusions

In order to control hemostasis there are few options such as vasopressin injection, clamping uterine arteries at the origin and clamping the ovarian arteries. But to perform these steps we usually need to suspend ovaries, which will extend operation time and removing the clips may also damage the vessels. But we suggest that if you stay in the correct plain, bleeding will be very low, even without performing any of these techniques. Using an electrothermal bipolar vessel sealing device and a laparoscopic tenaculum is a very useful method; with results of minimal blood loss and length of hospital stay.

<https://player.vimeo.com/video/549955937?autoplay=1>

Total laparoscopic hysterectomy with bilateral salpingo-oophorectomy for a large uterus

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Background

In this video we want to demonstrate a total laparoscopic hysterectomy with bilateral salpingo-oophorectomy for a large uterus. We aimed to point out the importance of retroperitoneal dissection and identification of anatomic landmarks in this kind of surgery, and the importance of choosing the ideal instruments and trocar sites.

Methods

We present a 52 year old patient who presented with pelvic pain. She had two previous cesarean section as surgery, and diabetes mellitus and hypertension as medical co-morbidities. She was diagnosed with intramural myoma. We decided to perform a laparoscopic hysterectomy with bilateral salpingo-oophorectomy as the patient had menopause for 3 years.

For the optimal visualisation we preferred Lee-Huang point for the optical trocar. We tried to identify anatomical landmarks such as ureter, obliterated umbilical artery and uterine artery. The peritoneum of lateral pelvic wall is incised medially and parallel to the IP ligament. The ureter is identified on the medial leaf of the peritoneum. The uterine artery is isolated and dissected from the ureter at this point and ligated with ligasure Maryland device. An incision is made and the peritoneum is opened using blunt and sharp dissections and sweeping motions on the right side. The ureter is identified with its classical peristaltic wave. The uterine artery is again isolated and ligated. We grasp the tube and than we coagulate and cut the IP ligaments. We continue with coagulating and cutting the left round ligament. We than move towards the anterior leaf of the broad ligament up to the vesicouterine space. The vessels are quite well skeletonized. The vesicouterine space is opened and the bladder is dissected using both electrocautery and blunt dissection with the help of a gauze. We coagulate and divide the uterine pedicles. We use a V-care uterine manipulator. We use a monopolar hook to perform colpotomy. We make sure that we preserve sacrouterine ligaments. After the vagina is totally open we remove the specimen through the vagina. Using an absorbable multifilament 1/0 suture, we close the vagina laparoscopically.

Results

Retroperitoneal identification of ureter and uterine artery is very important to avoid complications. In our case preoperative hemoglobin levels were 13.1 grams per deciliters, while postoperative levels were 12.8, with a total operation time of 55 minutes. The final pathology report revealed myoma. The patient was discharged next day.

Conclusions

Retroperitoneal isolation the uterine artery and ureter can be performed safely and efficiently with a proper knowledge of the anatomy, and the use of appropriate devices. Also for large uterus cases; it would be helpful to choose Lee-Huang point for optical trocar and to use 30° telescope.

<https://player.vimeo.com/video/550026121?autoplay=1>

Laparoscopic sacrocolpopexy for vaginal vault prolapse

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Background

Vaginal vault prolapse has been described as one of the most complex defects of pelvic floor, and laparoscopic sacrocolpopexy is preferred as the optimal treatment in many cases. We aimed to demonstrate our technique of surgery

Methods

Our patient was 53 years old and her complaint was a palpable lump in the perineum. She has had a history of total laparoscopic hysterectomy and bilateral salpingo-oophorectomy 3 years ago due to myomas and 3 vaginal births. She had no major medical comorbidities. In the gynaecological examination of the patient, there was apical descent in the vaginal cuff and there was no accompanying urinary incontinence complaint or significant cystocele on examination. Firstly we opened the omental adhesions at the cuff level that were formed due to previous abdominal surgery. We used a sponch for blunt dissections and bleeding control throughout the entire surgery. Then, the sigmoid colon was suspended through the left abdominal Wall by using a prolene suture. We manipulated the vaginal vault by the using back side of a curette. After suspending the sigmoid colon away from the field, we first found the sacral promontory to determine the apical line for the mesh. Then, by using ligasure, we dissected the peritoneum from the promontorium to the vaginal vault. Ureter activity is visualized under the peritone at the right side. At the vaginal vault, we opened the peritoneum by dissecting the rectovaginal space at the back and then the vesicovaginal space forward. We used prolene mesh, which we cut in an L shape of 15 X 2 cm. Firstly, we fixed the corner of our I-shaped mesh to the posterior of the vaginal vault with prolene sutures. Meanwhile, applying the sutures with sufficient tissue, we paid attention for not passing through the vaginal mucosa. We fixed the short end of the L-shaped mesh around the the vaginal vault with prolene sutures. We used an average of 7-8 sutures in this fixation. Then, we made a vaginal examination and adjusted the cuff height and tension. After determining the cuff level, we fixed the mesh on the sacral promontory with an absorbable tucker and prolene suture material. We closed the peritoneum using 2/0 Vycril sutures on the mesh area from the vaginal vault to the sacral promontory. Thus, we have placed the entire mesh in the retroperitoneal area.

Results

Our case was executed with no complications, very low intraoperative blood loss and a short hospital stay (1 day). And had no recurrence at postoperative follow up period of 6 months.

Conclusions

Laparoscopic sacrocolpopexy with mesh is a feasible surgical treatment for vaginal vault prolapse, with less intraoperative complication rates and short-long term satisfactory results and also prevents the formation of further adhesions.

<https://player.vimeo.com/video/550130072?autoplay=1>

Challenging paraaortic and precaval bulky lymph nodes

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Background

To describe surgical strategy in the excision of enlarged paraaortic and precaval nodes in extraperitoneal laparoscopic approach.

Methods

We present two clinical cases:

A 54-year-old woman presented with one month of vaginal bleeding. Pelvic examination showed a 6cm cervical lesion involving both parametriums. Cervical biopsy confirmed a squamous cell carcinoma. MRI and PET-CT confirmed the clinical findings and also bilateral iliac lymph nodes infiltration and a 30x14mm precaval bulky node.

The second case, an 86-year-old woman, presented with a 2-month history of abdominal pain. A multilocular-solid cyst in the left ovary and a suspicious node situated above the left renal vein were observed in the imaging tests. The CT scan showed two vascular anomalies, a retroaortic left renal vein and a polar artery; a bulky node was described just between them. No peritoneal carcinomatosis signs were identified.

After Oncology-Gynaecology Committee evaluation, a laparoscopic approach was performed to resect both bulky nodes. The respective staging and cytoreductive surgeries were also undertaken.

Results

This video presentation offers a thorough review of the approach, surgical techniques and paraaortic space anatomy.

An extraperitoneal laparoscopic approach was chosen to get access to the bulky nodes; permitting secure access to the left paraaortic area. After extraperitoneal space creation, identifying anatomical landmarks was the first step. Dissection of the anterior aspect of the aorta and the cava allowed the identification and careful dissection of the bulky nodes, being successfully extracted entirely in a bag.

Postoperative courses were uneventful. Both patients received the indicated systemic treatment and to this day they are disease free.

Conclusions

Laparoscopic approach is feasible and safe in cases of bulky nodes in gynaecological oncology. Deep knowledge of the anatomy and previous review of complementary imaging tests are necessary in order to avoid complications.

<https://player.vimeo.com/video/550430145?autoplay=1>

Robot-assisted laparoscopic excision of diaphragmatic endometriosis

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Background

Robotic-assisted surgery is an indispensable tool that optimally addresses the diaphragm and thoracic cavity and overcomes the kinematic limitations especially in challenging dual compartment surgeries. This video aims to describe our experience with the robotic excision of full-thickness diaphragmatic endometriosis.

Methods

It is a production of a step-by-step surgical video tutorial with narrative video footage.

Results

A systematic robotic approach was utilized for the excision of full-thickness diaphragmatic endometriosis. The main technical tips for safe and effective surgery are described in detail. For the excision of endometriotic nodules, the falciform ligament was completely resected until the superior limit of the bare area of the liver to obtain a clear visualization of both the right and left side of diaphragm. After the appropriate identification of an endometriotic nodule of 1 cm on the right diaphragm, the nodule was bladed. The resection of the falciform ligament allowed visualization of a full-thickness larger (3 cm) blue infiltrating nodule proximate to the inferior phrenic artery on the right diaphragm which was not macroscopically visible at the first inspection. For the excision of this nodule, the phrenic artery was identified and a gentle suturation was performed to avoid any inadvertent bleeding. Following the pleural cavity entry, a full-thickness resection of the diaphragm was performed using monopolar energy and the diaphragmatic intentional defect was repaired with a barbed suture. Usage of a chest tube was avoided by introducing a negative pressure suction in the pleural cavity at the end of the diaphragmatic repair. The surgery was finalized with the excision of a remaining nodule of approximately 1 cm on the left side of the diaphragm.

Conclusions

Among different surgical approaches of choice for the treatment of diaphragm and/or pleural endometriosis, robotic surgery represents an important innovation for the treatment by providing a 3D view that abolishes sensory loss and increases depth perception. Unlike the rigid straight instrumentation of standard laparoscopy, with the benefit of "endowrist" function which allows for 7 degrees of movement and better maneuverability, robotic surgery offers a better suturation, excision capability with minimal risk of injury to the liver underneath.

<https://player.vimeo.com/video/550911826?autoplay=1>

**ES30-0099 -
Laparoscopic surgery**

A difficult case of the extensive adhesion

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Background

To describe the laparoscopic management of severe adhesion caused by the previous cesarean section.

Methods

This is the case report of a 50 y.o. 2G2P woman who has an adenomyosis and suffering from severe dysmenorrhea. She has the history of two previous cesarean section. Her uterus was severely fixed to her abdominal wall due to dense adhesion and we could not place a trocar in the midline of the abdomen. At first, we had to separate the uterus from the abdominal wall. We must find the dissectable plane between the uterus and abdominal wall. Frequently changes of camera port position were required during the dissecting process to facilitate effective dissection. It was also very difficult to identify the contour of the bladder so we isolate the ureters from pelvic side wall and finally we could identify the contour of the uterus and completed hysterectomy.

Results

After the surgery, the patient showed no sign of urinary tract injuries and the CRP did not increase. The patient was discharged 4 days after the surgery and the recovery course was uneventful. The patient featured in this video presentation gave her consent for their operative footage and patient data to be used for research and educational purposes.

Conclusions

For a safe and complete dissection of the adhesion, changing the approach points with an anatomical knowledge and finding ureter at relatively early phase of the operation thought to be very important.

<https://player.vimeo.com/video/551306478?autoplay=1>

**ES30-0105 -
Technical innovation in minimal invasive surgery**

Use of trocar site closure device (Endo Close) for laparoscopic vaginal vault closure

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Background

Various surgical techniques are used to close the vaginal vault which might be difficult to master for the trainees. A trocar site closure device like Endo Close, is used to anchor the edges of the vault which creates a clearer plane for suture application . This technique makes the vault closure easier, quicker and safer.

Methods

Endo Close is used to anchor the edges separately and the sutures are pulled out from the accessory ports to create a counter-traction to the vault hence providing a clean alignment of the open surfaces to apply the sutures.

Results

Easier and quicker suture time, reducing patient morbidity by shorter surgical time and hospital stay. It also provides better ergonomics to the surgeon.

Conclusions

Vaginal vault closure using trocar site closure device appears cost and time effective.

<https://player.vimeo.com/video/560157953?autoplay=1>

A case of ureteral endometriosis after total laparoscopic hysterectomy

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Background

Ureteral endometriosis is rare and silent disorder that can eventually lead to renal failure. Laparoscopic surgery is a safe, feasible modality for management of ureteral endometriosis. We report a case of hydronephrosis due to ureteral endometriosis two years after total laparoscopic hysterectomy.

Methods

The case is a 45 year old woman who underwent laparoscopic hysterectomy and bilateral salpingectomy for adenomyosis at the age of 42. Endometriosis was mild (rASRM stage 1). Two years after the operation, she complained of left lower abdominal pain once a month, and she had moderate left hydronephrosis. Although renal function was maintained, laparoscopic ureteral resection and ureteroneocystostomy due to rapid exacerbation of hydronephrosis and symptoms of lower abdominal pain was performed. Ureter endometriosis is classified into extrinsic and intrinsic types, and a mixed type. In most cases, the ureteral obstruction is caused by endometrial tissue or fibrosis surrounding the ureter (extrinsic ureteral endometriosis). In the remaining cases, endometriosis invades the ureteral wall (intrinsic ureteral endometriosis). The case presented is mixed type. Informed consent was obtained from patients to use their data for educational purposes.

Results

We speculate that this case had stenosis as a result of endometriosis and retroperitoneal fibrosis due to previous surgery. Laparoscopic segmental resection of the involved ureter took 2 hours and the blood loss was minimal. The patient recovered without sequel.

Conclusions

In the case of endometriosis surgery cases in which the ovaries are preserved, careful follow-up is required in preparation for the recurrence of endometriosis. Although ureteral endometriosis is a rare disease, early detection leads to preservation of the affected kidney, and it is very important to keep in mind the existence of this disease.

<https://player.vimeo.com/video/551432646?autoplay=1>

**ES30-0116 -
Hysteroscopic Surgery**

One-stage hysteroscopic resection of a large sessile polyp occupying 95% of the endometrial cavity in a postmenopausal woman

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Background

A 59 year old patient presented to our rapid access gynaecology clinic with a two week history of constant postmenopausal bleeding. Transvaginal ultrasound revealed a large polyp/fibroid measuring 3 x 4 cm in the endometrial cavity. The patient was booked for an urgent transcervical resection of the endometrial lesion under general anaesthesia.

Methods

The endometrial cavity was entered directly with a resectoscope and revealed a large polyp with a broad pedicle on the posterior wall. A 4mm bipolar loop electrode at 100W for cutting was used to resect the polyp. Adequate visual field was achieved by removing the polyp chips at intervals and adjusting the outflow function. The lesion was resected completely and sent to histopathology. Coagulation at 50W was performed to ensure haemostasis. Three ampoules of 2.2ml of Lignospan (lidocaine 2% and adrenaline) were used as cervical block at the end. The fluid deficit was 200ml positive balance.

Results

Histopathology confirmed a benign polyp. The patient was fit for discharge the same day. A one-stage procedure was achieved and the patient was able to have complete treatment of her large sessile polyp only three weeks from the referral of her family doctor to gynaecology.

Conclusions

For large intrauterine lesions like this case, our team recommends proceeding to resection under general anaesthesia, if the patient is significantly symptomatic and the intent is therapeutic as opposed to diagnostic. We believe that the safest strategy is hysteroscopic resection as opposed to blind avulsion of the polyp. Moreover, in our experience, local anaesthetic to the cervix at the end of operative hysteroscopy is likely to improve postoperative pain.

<https://player.vimeo.com/video/551450072?autoplay=1>

Vaginal NOTES approach for risk-reducing salpingo-oophorectomy in BRCA mutation carriers: a video demonstration

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Background

Risk-reducing bilateral salpingo-oophorectomy (BSO) is an important option to prevent development of ovarian and fallopian tube cancers in women with BRCA1/2 mutation. Conventional laparoscopy is the current preferred technique since it is associated with less morbidity compared to laparotomy. Transvaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES) is a new minimally invasive technique that allows to access the peritoneal cavity through the vagina and without skin incisions. The vNOTES technique for risk-reducing BSO is presented herein.

Methods

This article includes a video demonstration of the entire procedure using a step-by-step approach with a narrated video sequence. The patient selected was a fifty-two-year-old woman, gravida 2 para 2. She was a mutation BRCA2 carrier. Her past-surgical history was unremarkable. Her ASA score was 1 and her Body Mass Index was 27. The operative time was 55 minutes. Four hours after surgery, the patient had a VAS pain score of 0. The patient was discharged at day one after surgery. The post-operative course was uneventful.

Results

The 4 consecutive steps of the procedure are presented: the posterior colpotomy, placement of the vNOTES port, the adnexectomies, vaginal closure.

Conclusions

Risk-reducing BSO by the vNOTES approach is a feasible technique that appear to be simple, safe, and reproducible. This technique is promising to improve patient's surgical experience and good long-term functional and cosmetics outcomes. This technique needs to be further evaluated and compared to the conventional laparoscopic approach.

<https://player.vimeo.com/video/551517630?autoplay=1>

Laparoscopic repair of a vesico-vaginal fistula

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Background

This is a case-report of a 30 year old patient who developed a vesico-vaginal fistula after a cesarean section that was performed in emergency due to uterine rupture and concomitant rupture of the urinary bladder. During the cesarean section, an immediate uterus-sparing repair was performed as well as a double layer suture of the urinary bladder. The urinary catheter was removed after two weeks, as the cystography was normal. Unfortunately, the patient presented urinary vaginal discharge three weeks postpartum. A vesico-vaginal fistula was objectivated at the CT scan.

Methods

Laparoscopy was the treatment of choice for this patient due to the localisation of the fistula, the narrow vagina that limited the field of vision and the size of the fistula(+/-5mm). The operation started by the partial opening of the vesico-vaginal fold. Due to dense adhesions a longitudinal sectioning of the vagina was performed up to the area of the fistula. The scar tissue surrounding the fistula was removed and further dissection of the vesico-vaginal fold lower than the fistula permitted the separate suturing of the urinary bladder and the vagina. A blue dye test for the bladder was performed at the end of the operation and showed no leakage.

Results

The patient was discharged from the hospital two days after surgery and no post operative complications occurred. Two cystographies were performed. The first 2 weeks after surgery in order to remove the urinary catheter and the second 3 months later. Both confirmed the integrity of the bladder.

Conclusions

Vesico-vaginal fistula is a rare complication that can be treated laparoscopically with equivalent results as the transvesicular (O'Connor's method) and transvaginal approach. The advantage of the laparoscopic technique is the field of vision which is much larger than the previously mentioned types of operations.

<https://player.vimeo.com/video/550745773?autoplay=1>

How to simplify a promontofixation?

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Background

Surgical treatments for pelvic organ prolapse (POP) have undergone significant changes in recent years. Laparoscopic promontofixation is considered the “gold standard” in POP surgery to treat apical defects; considering the advantages of less blood loss, reduced morbidity, faster recovery time and shorter hospital stay.

However, it requires advanced techniques (i.e, dissection, suture and deep knowledge of anatomy), and surgery times are longer than abdominal and vaginal approaches.

In this context, the objective of this video is, to present 4 tools that simplify promontofixation by shortening operative time and, achieving good repair of the defect without increasing the risk of complications.

Methods

This is an edited video that presents 4 surgical strategies that should be followed in order to achieve the best surgical outcome when shortening surgery time during promontofixation.

Results

Four main strategies were described in detail during a laparoscopic promontofixation:

- (1) Fixing the sigmoid colon to the left lateral abdominal wall with a T-LIFT® device for a clearer visualization of the sacral promontory and allowing the assistant to focus on helping the surgeon during the dissection.
- (2) Using a Bipolar Loop for sectioning the uterus, is a safe and effective single-use instrument for supracervical hysterectomy, minimizing cervix amputation time by cut and coagulation in one step, leaving a clean hemostatic surface of the cervical stump.
- (3) Making a retroperitoneal tunnel (not opening the peritoneum between the sacral promontory and Douglas pouch) with a helical reusable tunneling device (RTD.-Ney®), can avoid mesh erosion or vessel and nerve injury during dissection.
- 4) Finally, the use of Spire'it® for the fixation of mesh can shorten operative time and avoid mesh shrinkage with less possibility of damaging the tissues than using classic sutures.

Conclusions

Laparoscopic promontofixation is an effective technique for prolapse surgery. These four devices help to perform the surgery, making the procedure faster and easy to learn.

Our desire is that simplification of the surgical technique, will help to make the laparoscopic approach of pelvic organ prolapse more commonly used in pelvic floor units

<https://player.vimeo.com/video/551592303?autoplay=1>

Safe steps for laparoscopic vaginal leiomyoma removal: a feasibility report

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Background

Leiomyomas are rarely located at extra-uterine sites. Vaginal fibroids are an uncommon entity and may present with pelvic pain, dyspareunia or void dysfunction. Surgical management of symptomatic vaginal leiomyomas is challenging due to their close proximity to important anatomic structures, such as the ureters, the bladder and the urethra. Traditionally an open approach is used either abdominally or vaginally. This is a demonstration of a total laparoscopic technique for vaginal leiomyoma removal, in the context of fertility preservation. Laparoscopy seems to be feasible in such cases.

Methods

A total laparoscopic approach to a 6-cm anterior vaginal leiomyoma is demonstrated. Key points to our approach that intend to minimize trauma and associated bleeding and facilitate the optimal plan for surgical dissection are the following:

Retroperitoneal, lateral approach of the mass, through dissection of the right umbilical (obliterated umbilical artery) and median umbilical (urachus) ligaments and entering to the right median paravesical / paravaginal and prevesical (Retzius) avascular spaces.

Visualization of the ipsilateral ureter and its position in relation to the fibroid mass

Mobilization of the bladder anteriorly, through the prevesical (Retzius) space to expose the anatomic relation of the leiomyoma with the cystic triangle and the urethra at the base of the bladder.

Recognition of the avascular plane for dissection, with special focus to avoid injury to the ureter, the bladder, the urethra.

Significant neurovascular structures are:

- a. The Santorini venous plexus, which can be injured during dissection at the base of the bladder.
- b. The dorsal neurovascular bundle of the clitoris, located centrally within the Retzius space, which can be injured during prevesical space dissection
- c. The obturator nerve and vasculature, which ran through the lateral paravesical space, externally to the obliterated umbilical artery and can be injured during lateral expansion of the incision

After complete removal of the mass, restoration of the anterolateral vaginal wall defect with interrupted sutures.

Results

Total operative time was 160 min and blood loss estimated at 40ml. The patient recovered uneventfully.

Conclusions

Total laparoscopic removal of vaginal leiomyomas is technically feasible and safe, but demands high level of expertise and deep knowledge of surgical anatomy to avoid potential injury to neighboring structures. More studies are needed in order to conclude on the optimal technique for excision.

<https://player.vimeo.com/video/551559942?autoplay=1>

Hysteroscopic isthmoplasty for abnormal uterine bleeding; a case report and literature overview

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Background

Isthmocele is a benign gynaecological condition that correlates with increased cesarean rates. It is also known as a c-section scar defect. An isthmocele appears as a reservoir-like pouch defect on the anterior wall of the uterine isthmus located at the site of a previous cesarean delivery scar. In the previous cesarean section, wedge-shaped defects of more than 1-2 mm occur. According to diagnostic methods, its incidence is stated in the literature at varying rates between 24-84%. Transvaginal 2D-3D ultrasonography, sonohysterography, pelvic arteriography, magnetic resonance imaging can be used for diagnosis. The patients may be asymptomatic or presented with spotting-style intermenstrual abnormal uterine bleeding, pelvic pain, dysmenorrhea, secondary infertility, adenomyosis, bladder dysfunction, obstetric complications (ectopic pregnancy, scar pregnancy, etc.). Surgical methods are recommended in symptomatic patients in treatment. Hysteroscopic, laparoscopic or vaginal isthmoplasty can be performed.

Methods

In this study, we performed a hysteroscopic approach for isthmocele. Herein we present the case of a 42 years old, gravida 2, para 2, 2 previous c-section, woman who presented with postmenstrual spotting and pelvic pain at intermenstrual periods. Transvaginal ultrasonographic examination revealed a 10 × 9 mm cesarean scar defect with myometrial thickness 3.7 mm on the anterior wall at the level of the uterus isthmus. The hysteroscopic isthmoplasty approach was applied. The stages of the procedure are as following: the anatomy of the isthmocele is determined, the cephalad edge of isthmocele is resected, the caudad edge of the isthmocele is resected, endometrium and abnormal vessels are ablated.

During the procedure, the cephalad and caudad edges of the isthmocele were resected with bipolar loop cautery. Subsequently, ablation was performed with bipolar roller-ball cautery.

Results

No complications were observed during and after the procedure. It is essential that the residual myometrial thickness should be > 2.5 mm for selecting the appropriate patient, and the bladder should be emptied with a foley catheter just before the procedure. After resection, the area should be checked by turning the hysteroscope 180 degrees. The patient was discharged 6 hours after the procedure. A day after the procedure, no pouch-like defect was observed in the ultrasonography. After 3 months, the patient had no abnormal uterine bleeding, and a reduction in pelvic pain was observed.

Conclusions

A recent meta-analysis showed an improvement of symptoms in 85% (75.05-92.76%) of women after hysteroscopic correction, 92.77% (85.53-97.64%) after laparoscopic / robotic correction, and 82.52% (67.53-93.57%) after vaginal correction. Also, in the same meta-analysis, hysteroscopic surgery was associated with the lowest risk of complications (0.76%, 0.20–1.66%). Although the methods do not have any superiority over each other, the hysteroscopic isthmoplasty should be preferred as an easy, reliable, safe, and inexpensive method.

<https://player.vimeo.com/video/551627779?autoplay=1>

Successful management of hysteroscopic tissue removal using the Intrauterine Bigatti Shaver

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Background

We report here our experience and modifications regarding the surgeries conducted with the hysteroscopy called Integrated Bigatti Shaver® (IBS).

Methods

We present the surgical cases successfully treated with IBS. Informed consent was obtained from all three patients.

Results

Case 1: A 42-year-old nulliparous woman visited our hospital suffering from irregular genital bleeding and infertility. Hysteroscopy revealed the polyp and the extensive intrauterine adhesion. Resectoscopy was performed using IBS. Postoperatively, irregular bleeding has stopped, and the patient's progress is presently monitored with outpatient visits.

Case 2: A 72-year-old 2 Gravidity 2 Parity woman visited our hospital suffering from a green discharge. A contraceptive ring was left in the uterus some 30 years ago after its insertion. The cytology of the cervix and endometrium were normal. Resectoscopy was performed in order to remove the IUD using IBS. Postoperatively, the green-colored discharge has stopped. Case 3: A 42-year-old nulliparous woman visited our hospital for infertility treatment. Because the transcervical embryo transfer was impossible due to the stenosis of the uterine cervix, transmyometrial embryo transfer was performed, but embryo implantation failed. Resectoscopy was performed in order to repair the stenosis using IBS. After the removal of the intrauterine cervix step, smooth insertion of a catheter was possible.

Conclusions

Unlike the conventional resectoscopy, the main advantage of the IBS is that the tissue chips or adhesions were removed without any thermal damage occurring on the endometrium. The thermal damage should be avoided in view of reproduction. The IBS should be proactively used in younger women in their reproductive age. Further investigations are needed to determine its effectiveness for patients whose fertility preservation is requested.

<https://player.vimeo.com/video/551637813?autoplay=1>

The pathway of autonomic nerves in the para-aortic region observed on laparoscopy

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Background

The number of minimally invasive para-aortic lymphadenectomy procedures, such as laparoscopy and robotic surgery, has recently increased. Although the consideration of neuroanatomy around the aorta is important, the nerve pathway is not generally recognized. Injury to these nerves in men results in ejaculation disorder; hence, nerve-sparing surgery is widely considered in urology and colorectal surgery. In contrast, it was believed that these nerve injuries rarely caused significant complications in women; however, recent reports have suggested post-operative disorder of defecation and sexual function in women as well. Hence, it may be time to consider nerve-sparing surgery for gynaecologic malignancy too.

Methods

We examined how nerves observed in minimally invasive surgery using our laparoscopic or robotic surgical videos of extraperitoneal para-aortic lymphadenectomy.

Results

The autonomic nerves around the aorta form a complex neural network. The lumbar splanchnic nerves from the sympathetic trunk constitute the ganglions in front of the aorta, and the bilateral nerves merge into the superior hypogastric plexus around the aortic bifurcation.

Conclusions

With developed technology of the visual system, the current report indicated nerves visible in the aortic region during para-aortic lymphadenectomy. In the near future, it is desirable to preserve female sexual function and defecation function, so the findings of this study may contribute to research regarding nerve-sparing para-aortic lymphadenectomy.

<https://player.vimeo.com/video/551641728?autoplay=1>

Improved laparoscopic surgical exposure using T-Lift Tissue Retraction System

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Background

Exposition is one of the key factors for success in laparoscopic surgery. It allows visualization of the operation field and permits a wider field to perform the surgical steps needed, which in turn will increase surgical efficacy and decrease surgical time. Suspension techniques using sutures, devices or Trendelenburg position allow the assistant to have an extra hand to help and focus on the surgical dissection.

T-lift is a disposable device used in laparoscopy that allows suspension and retraction of many abdominal and pelvic organs. The main goal of this device is to improve surgical exposition and release one hand of the operator or the assistant.

Methods

Step-by-step educational video, showing how to safely introduce the T-LIFT® organ and tissue suspensor system and showing examples of which organs can be suspended by this device.

Results

T-LIFT® organ and tissue suspensor system consists of two parts: a metal needle and a t-shaped plastic head. The metal needle containing the plastic head inside is introduced in the abdominal cavity percutaneously (no incision or trocar needed). Then, the needle will pass through the tissue that the surgeon wants to suspend and the plastic head is further introduced until visualization of the t-head inside the abdomen. Afterwards, all the system is pulled until the abdominal wall and the needle is removed from the cavity. A blue clip is placed in the extracorporeal tip of the plastic head to lock the suspension at the desired level.

This device is classically used for sigmoidal suspension in promontofixation or ovary suspension in surgery for endometriosis. However, it may also be used to suspend other organs and structures such as: bladder, uterus, vaginal vault, small bowel and endobag.

Conclusions

T-LIFT® organ and tissue suspensor system improves exposition without causing trauma to the suspended organs. Besides the classical utilization of this device for sigmoidal and ovarian suspension, the device may be used for other organ suspension and, if needed, more than one T-LIFT may be used in the same surgery.

<https://player.vimeo.com/video/551649687?autoplay=1>

A novel technique to minimize surgical bleeding in laparoscopic resection of interstitial ectopic pregnancy: Step-by-step demonstration

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Background

To demonstrate a novel approach to minimize bleeding and morbidity in surgical management of interstitial ectopic pregnancies and to review the surgical steps of laparoscopic cornual resection, highlighting suturing technique for standardizing the approach.

Methods

We report a case of a woman affected by interstitial pregnancy, managed initially with multi-dose IM methotrexate under 10-day hospitalization surveillance, followed by an exploratory laparoscopy due to the suspicious of rupture of the ectopic pregnancy. The presence of right cornual ectopic pregnancy was confirmed and an ectopic pregnancy resection was performed.

Surgery was completed without complications, the estimated blood loss during the surgery was 400 cc, she underwent an uneventful post-operative course and with a confirmatory pathology.

Results

We propose a 5-step approach for cornual resection. In the 1st step, a bleeding prevention maneuver is performed by a bilateral temporary occlusion of the uterine and ovarian artery. In the 2nd step we perform a cornual resection using Harmonic scalpel applied circumferentially beneath the ectopic pregnancy. In the 3rd step, we repair the uterine defect following suturing rules in two layers. In the 4th step we perform ipsilateral salpingectomy and in the last step, we perform a profuse peritoneal lavage and applicate an anti-adherent substance on the uterine serosa to prevent future adhesions.

Conclusions

Temporary occlusion of uterine and ovarian artery is a safe and reproducible technique and can be helpful for preventing blood loss in case of an ectopic cornual pregnancy resection. Moreover, the use of barbed suture is associated with a faster closing of the myometrial defect and a shorter operative time. Both techniques will decrease the morbidity associated with surgical approach of this rare but threatening condition. It must be highlighted that a proper planning of surgical steps is crucial, particularly when dealing with pathologies with high risk of bleeding.

<https://player.vimeo.com/video/551662310?autoplay=1>

Bladder endometriosis: partial cystectomy with peroperative ureteric stenting in 10 steps

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Background

Deep endometriosis is now a common disease in many gynaecology departments. But its management can be a surgical challenge depending on the location of the endometriosis.

We've seen several cases of bladder infiltrated with deep endometriosis. It's now usual to remove it laparoscopically when the medical treatment is ineffective but many different techniques have been described. Most of them included a peroperative cystoscopy which can lengthen the operating time or help of a urologic surgeon that can be difficult to have in many hospitals.

We wanted to show how the surgical procedure can be done without the need of any preoperative cystoscopy or help from urologic surgeons.

We present here a standardized 10 steps approach that can be easily replicated.

Methods

- 1: Cystoscopy
- 2: Operative set up and exposure
- 3: Anterior and lateral approach of the bladder
- 4: Ureterolysis at the level of the ovarian fossae
- 5: Opening of the anterior part of the broad ligament and ureterolysis until the bladder with conservation of the uterine artery
- 6: Dissection of the vesicouterine and vesicovaginal septum lower than the nodule
- 7: Opening of the bladder dome and ureter checking
- 8: placement of bilateral JJ probes. The bladder being opened up, cystoscopy is not needed at this point.
- 9: Bladder closure
- 10: Blue test, Closure of the spaces and adhesion prevention

Results

Post-operative days were free of any complications, she went home after two days. Urinary catheter was removed after 15 days without any dysuria afterward. Both JJ probes were removed after 6 weeks. At the post-operative consultation, the patient didn't present any persistent symptom nor pain.

Conclusions

Deep bladder endometriosis can be managed laparoscopically. Experience in pelvis surgery is needed to perform this operation without any complication. This operation can be standardized to be performed more quickly and to reduce the risk of complication.

<https://player.vimeo.com/video/560530325?autoplay=1>

ES30-0183 -

Reproductive medicine and surgery

Management of a massive hemoperitoneum and abdominal ectopic pregnancy at the beginning of the COVID-19 pandemic. Iconographic tips and tricks for safe emergency laparoscopic surgery

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Background

The SARS-COV-2 infection made surgeons doubt about the surgical abdominal approach between laparoscopic or laparotomic in emergency cases.

The main reasons that raise doubts about the safety of laparoscopic surgery in COVID-19 patients are the risk of transmission through the surgical smoke and the pneumoperitoneum as airborne - aerosol generating and its possible transmission even from asymptomatic patients.

Against this "anti-laparoscopic" policy the European Society for Gynaecological Endoscopy (ESGE) and other societies made their recommendations for a safe minimal invasive surgery of positive/unknown COVID-19 patients.

The problem is that even following the societies recommendations we can find several issues during the surgery: smoke evacuation systems are not always available and desufflation during the surgery can cause a leakage of contaminated aerosol from pneumoperitoneum by trocar removal, big incisions for ports, specimen extraction or surgical drains.

Emergency laparoscopic surgery in COVID-19 patients has been one of the most challenging practices of this pandemic. The safety recommendations are difficult to remember and the guidelines texts could be tough to apply in urgent cases.

Methods

A step-by-step review of the recommendations for a safe laparoscopic emergency surgery for a confirmed/unknown COVID-19 patient is presented in our video of the laparoscopic management of an infrequent case of abdominal ectopic pregnancy with a massive hemoperitoneum suspected by ultrasound at the beginning of the pandemic without time to wait for the diagnostic COVID-19 test.

Results

The surgical laparoscopic management is presented through an iconographic checklist of the main tips and tricks for a safe laparoscopic surgery in emergency cases in the pandemic.

Conclusions

It is possible to manage a massive hemoperitoneum by laparoscopy during the COVID-19 pandemic following the safety recommendations of the guidelines. Our five minutes video is an easy-to-follow checklist to remember all the key points for a safe emergency laparoscopic surgery.

<https://player.vimeo.com/video/557138325?autoplay=1>

Laparoscopic hemi-hysterectomy for chronic pelvic pain in adolescence

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Background

Congenital malformations of the female genital tract are deviations from normal anatomy resulting from Mullerian ducts anomalies, with a prevalence of 4-7%.

Methods

Review of a case of hemi-uterus with a functional non-communicating rudimentary cavity and the literature about the issue

Results

A 17-year-old virgin presented to the emergency department with complaints of severe spasmodic pain in the lower abdomen. She referred recurrent pelvic pain, severe dysmenorrhea and catamenial diarrhea for the last 2 years. No cause was found for the diarrhea and a right renal agenesis was diagnosed in the meantime.

On observation, she had abdominal tenderness in the inferior quadrants with no signs of peritoneal irritation. Full gynaecological examination not performed (normal intact hymen). Transretal ultrasound suggestive of uterine malformation with hematometra.

The patient was medicated with oral continuous combined pill and a follow-up appointment scheduled.

Ultrasound and a magnetic resonance imaging (MRI) performed and suggestive of a hemi-uterus with a non-communicating rudimentary cavity but inconclusive evaluation of the vagina.

After discussion with the patient and parents she was proposed to diagnostic hysteroscopy and laparoscopic removal of the rudimentary cavity.

Hysteroscopy revealed a normal vagina and cervix and one tubular uterine cavity with left tubal ostium. On laparoscopy a left hemi-uterus was noticed with normal left ovary and tube and a non-communicating right rudimentary cavity with normal adnexa (U4aC0V0). A significant amount of blood was present at the pouch of Douglas and two endometriotic superficial lesions were also detected. Excision of the right rudimentary cavity, right salpingectomy and excision of endometriotic lesions was performed.

Procedure and post-operative period were uneventful.

Conclusions

Diagnosis of a uterine malformation can be challenging due to its multiplicity, multivariate and sometimes unspecific symptoms. Ultrasound and MRI are of paramount importance.

A functional non-communicating uterine cavity usually causes blood retention and retrograde blood flow and an increased risk of hematometra, infection, endometriosis and infertility. Accurate diagnosis is critical to establish an appropriate treatment and surgical approach.

<https://player.vimeo.com/video/551672462?autoplay=1>

How and where to expect endosalpingiosis intraoperatively?

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Background

Endosalpingiosis is defined as ectopic presence of fallopian tube-type epithelium. With an estimated prevalence of 7%, it is the second most common benign peritoneal disease after endometriosis. While endosalpingiosis does not seem to be associated with pelvic pain or infertility, recent studies showed a significant association with gynaecological malignancies. Reviewing the literature, it appears that although science is taking it up a notch, many fundamental principles remain unclear. Even though the diagnosis relies on assessment and biopsy acquisition during laparoscopy, systematic data on intraoperative appearance is scarce. The aim of this work is the description of the anatomical distribution and morphology of manifestations and thus to provide the laparoscopist with further understanding of this clinical picture.

Methods

Data and intraoperative videos of patients with histologically verified endosalpingiosis from 2007 to 2020 at one referral center were retrospectively reviewed by two independent reviewers. Primary endpoints were anatomical distribution and macroscopic phenotype. Secondary endpoints were demographic and clinical characteristics as well as associated diseases.

Results

Of 76 patients with endosalpingiosis (mean age 40.0 years (SD 16.5), BMI 24.0 kg/m²), 60.5% were nulligravida (69.7% nullipara), 22.4% suffered of infertility, 50.0% had dysmenorrhea or non-cyclic pelvic pain, 52.6 % had at least one previous abdominal or vaginal surgery. Endometriosis was associated in 52.6 %, malignancies in 28.9% (n=22; 6 endometrial cancer, 8 borderline tumors and 5 adenocarcinomas of the ovary). There were 69 pelvic, 9 other abdominal and 3 lymphatic manifestations of endosalpingiosis (21.0% multilocular). Varying intraoperative phenotypes will be demonstrated in the video presentation.

Conclusions

In the majority of this population endosalpingiosis was located in the pelvis. The higher prevalence of specific gynaecological tumors is consistent with previous results. In phenotype, most lesions appear to be less spectacular than prominent in the literature. For further studies on the relevance as a risk factor for malignancy and subsequent recommendations for a clinical consequence, sound knowledge about endosalpingiosis of laparoscopists as initial diagnosticians is crucial.

<https://player.vimeo.com/video/551679072?autoplay=1>

**ES30-0193 -
Hysteroscopic Surgery**

Outpatient hysteroscopic management of chronic retained pregnancy tissue. 12 months of data using truclear hysteroscopic shaver to treat chronic retained pregnancy tissue

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Background

Review of 12 months data in the management of retained products of conception in the outpatient setting. These cases primarily managed using TRUCLEAR hysteroscopic shaver (Medtronic). Data is presented as well as short video demonstrating technique.

Methods

The casenotes and ultrasound scans of patients referred for outpatient hysteroscopy at a single UK centre due to chronic retained pregnancy tissue were reviewed. Relevant data was extracted to assess efficacy, safety and acceptability of this management option.

Results

Total of 14 women underwent outpatient hysteroscopy for chronic retained pregnancy tissue. There was clinical suspicion of retained pregnancy tissue in 10 cases. Histology was confirmed in 8 cases. 8 cases underwent hysteroscopic resection with TRUCLEAR. The average length of time since miscarriage, termination or delivery was 9.6 weeks. 2 cases required further medical input at a later date.

Conclusions

Our experience is that outpatient management of retained pregnancy tissue is a safe, effective and well tolerated procedure. Our experience is primarily in the use of the TRUCLEAR hysteroscopic shaver. Further knowledge would be gained from a larger prospective study including patient feedback. In the future we can envisage increasing usage of outpatient hysteroscopy in the management of women with retained pregnancy tissue.

<https://player.vimeo.com/video/551680662?autoplay=1>

Vaginal carcinoma on a vaginal septum in Mullerian anomaly

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Background

This is a video presentation of a 60 year old female who had recurrent abnormal Pap smear results and positive HPV test, however she had negative biopsies at colposcopy. She has bicornuate uterus with double cervixes and no right kidney. Since her screening tests and colposcopy findings were inappropriate hysterectomy was proposed. Consent was taken for type II hysterectomy.

Methods

Laparoscopic type II hysterectomy with upper 2 thirds of vaginal excision was performed

Port Set up: 10 mm umbilical main trocar, three 5 mm satellite trocars

Energy Source: Monopolar scissors and Thunderbeat

Results

Entering to the abdomen was through the umbilical natural orifice. The bicornuate uterus was observed and the right horn of the uterus has multiple leiomyomas. The regular steps of hysterectomy were performed and both horns of the uterus were liberated. The ureter was visualised on the left side. On the right side after the horns are excised from the surrounding tissues a tubular mass was observed. It was thought to be the remnant of right ureter since the patient didn't have right kidney. It was dissected carefully to the point where it entered the right upper vaginal wall. At the vaginal excision step tumor was observed on a vaginal septum. Upper 2 thirds of the vagina was excised in order to have clean surgical border. The cuff was sutured with vicryl sutur with extra-corporal sutures. The operation lasted for 4 hours and the patient's recovery was uneventful. The pathology report revealed 2.1 cm vaginal squamous cell carcinoma at mid vaginal part and the surgical margin is clear at lower vaginal wall. Separate tissue attached to the right vaginal wall was compatible with ureter. She had pelvic radiotherapy with weekly Cisplatin chemotherapy.

Conclusions

Laparoscopic excision procedures may require advanced gynaecologic surgical skills especially performing type II hysterectomy with a large vaginal excision. This is a unique case both with Mullerian anomalies and vaginal cancer. Having clear surgical margins is very important for the adjuvan therapies after the operation.

<https://player.vimeo.com/video/551694760?autoplay=1>

**ES30-0201 -
Laparoscopic surgery**

Laparoscopic bilateral gonadectomy and totally extra-peritoneal hernia repair for complete Androgen Insensitivity Syndrome

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Background

Complete androgen insensitivity (CAIS) is a difference of sex development, in which there is complete androgen receptor resistance, leading to a female phenotype, despite the presence of normal testes. There is a recognized risk of testicular germ cell tumor in adulthood as high as 15%, and gonadectomy is usually performed in late adolescence or early adulthood.

Methods

A 20-year-old patient, with a known diagnosis of CAIS since the age of 16, underwent magnetic resonance imaging of the pelvis, which revealed the testes lying deep into the inguinal canal and listed for laparoscopic gonadectomy.

Results

The patient was explored laparoscopically and using the technique of transabdominal preperitoneal hernia repair both testes were successfully reduced into the peritoneal cavity and resected. In addition, the defect of the internal inguinal ring was covered and reinforced using a prosthetic polypropylene mesh.

Conclusions

Minimally invasive gonadectomy is feasible even for gonads situated deep into the inguinal canal. Established benefits of laparoscopic surgery such as reduced postoperative pain, rapid recovery, aesthetically small incisions, and early return to normal activities are very important for CAIS patients. Multidisciplinary team work, among gynecologists and general surgeons, provides excellent results in these complex cases.

<https://player.vimeo.com/video/551697884?autoplay=1>

Laparoscopic radical hysterectomy post LACC era. Strategies to prevent tumor cell spillage. Case report

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Background

Surgical approach of early-stage cervical cancer has created great controversy since the LACC trial. Many concerns have been raised over the safety of the minimally invasive option regarding tumour cell spillage. We describe several surgical strategies to avoid tumor dissemination.

Methods

Case report This was a 45-year-old woman, G2P2, non-smoker, without previous abdominopelvic surgeries, with a body mass index (BMI) of 27kg/m².

She had high-grade squamous intraepithelial cervical lesion (H-SIL) in the cervical cytology and squamous cell carcinoma with 7.5mm of horizontal extension in the cervical conization. Magnetic resonance imaging (MRI) showed 6mm of extension lesion, no parametrial invasion and no locoregional lymph nodes. She was diagnosed with a cervical cancer pT1B (TNM 8^o ed), stage IB1 (FIGO 2018).

We performed a Modified Radical Hysterectomy and Pelvic Lymphadenectomy with Pelvic Sentinel Lymph Node biopsy.

Post LACC surgery techniques The following surgical techniques are described in the video:

Avoidance of manipulator and alternative uterine suspension technique.

Vagina sealing technique, using an articulated endoGIA.

Used of laparoscopic specimen bags for lymph nodes and for the radical hysterectomy.

Use of Povidone-iodine solution for irrigation of vagina and port sites.

Results

Histology findings showed squamous cell carcinoma, moderately differentiated, with 7mm of superficial extension and 7mm of stromal infiltration, with wide free margins (>1cm). A total of 16 pelvic lymph nodes were examined, all of them reported as negative for malignancy. Final stage was: T1B1N0M0 (TNM), IB1 (FIGO).

Surgical operative time was approximately 4 hours. Patient's hospital stay was of 48 hours.

Conclusions

Laparoscopic manage may be a feasible option for early-stage cervical cancer.

Technical surgical measures described may be useful to prevent peritoneal contamination with tumor cells and may improve the outcomes of minimally invasive surgery, although technically, the procedure has become more complicated.

Further randomised studies are necessary to evaluate outcomes of laparoscopic approach.

<https://player.vimeo.com/video/551971798?autoplay=1>

The use of indocyanine green for sentinel node – mapping and ureteral assessment

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Background

The use of indocyanine green for sentinel node – mapping and ureteral assessment allows identification of the sentinel node and facilitates dissection of the ureter.

Methods

We report a case of a 41-year-old woman who underwent a cervix adenocarcinoma IB 1 stage. It is performed a laparoscopic hysterectomy with bilateral salpingo – oophorectomy (without uterine manipulator), parametrectomy, upper vaginectomy and bilateral pelvic lymphadenectomy with "Rubina imaging technology" from Karl Storz. It combines 4k technology with indocyanine green fluorescence imaging. In "overlay mode", the regular white light image is combined with the indocyanine green data to generate an overlay image.

We used indocyanine green for sentinel node – mapping and ureteral assessment and preservation for intraoperative visualization.

We perform a systematic technique by using indocyanine green for intraoperative visualization of both ureters and sentinel node – mapping begins by injecting 4 ml of indocyanine green in cervix, at nine and three o'clock (2 and 2 ml in each one) of the cervix were used as a guide to inject.

It must be highlighted that in central tumor cases, such as in cervical tumors, bilateral drainage must be assured during sentinel pelvic lymph nodes dissection.

Then, the technical step includes a cystoscopy to insert the tip of a 6-Fr ureteral catheter and instillation of 8 mL of indocyanine green (1.25 mg/ml solution). Finally, the catheters are removed because the fluorescence remains in the ureters up to 6 hours while the surgical procedure is performed.

Results

The technique allows great visibility of the ureters and the sentinel node. The surgeon performs the dissection safely.

Conclusions

The use of indocyanine green for sentinel node – mapping and ureteral assessment and preservation for intraoperative visualization reduce the morbidity and risk of ureteral damage.

<https://player.vimeo.com/video/552503534?autoplay=1>

Step by step technique for laparoscopic nerve sparing radical hysterectomy: Pericervical anatomy focused on paracolpium and vesical nerve branch

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Background

Separation and sparing of vesical nerve branch of inferior hypogastric plexus, to preserve pelvic autonomic nerve, is critical and difficult in nerve sparing radical hysterectomy. Reproducible procedure for nerve sparing technique balanced with radicality is required.

Methods

Standardized procedure of nerve sparing technique combined with Okabayashi radical hysterectomy is presented in surgical video of a case of cervical cancer T1b2 in a reproducible way. MRI showed 3.3cm in tumor size and CT revealed no metastasis preoperatively. Consecutive 10 cases of cervical cancer T1b last one and a quarter years in Osaka Rosai Hospital operated by this procedure in laparoscope are analyzed.

Results

Video showed the feasibility and reproducibility of the procedure. Vesical nerve branch and paracolpium is clearly presented in the video. Autonomous urination recovered in all cases. Median to recover autonomous urination is 13 days. 8 out of 10 cases recovered autonomous urination within 2 months of operation. Cut ends are all negative and no recurrence or metastasis is observed.

Conclusions

Standardized procedure of nerve sparing technique combined with Okabayashi radical hysterectomy is reproducible in laparoscope and acceptable both in radicality and in recovery to autonomous urination. Video showed bloodless procedure devoid of electrocauterization is mandatory for preservation of voiding function.

<https://player.vimeo.com/video/554226261?autoplay=1>

How do you identify ureter and uterine artery? Encouragement of 'cranial approach' accompanied with wide dissection of posterior leaf of broad ligament

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Background

In developing retroperitoneal space, anterior, posterior and lateral approach is frequently discussed in laparoscopic surgery. Instable quality in identifying ureter and uterine artery is a common intrinsic disadvantage in all these approaches due to confined surgical field developed. Wide dissection of peritoneum and retroperitoneal approach started from cross point of ureter and iliac artery ('cranial approach') result in maximum quality in developing retroperitoneal space.

Methods

This is a video presentation of 'cranial approach' with wide separation of peritoneum in developing retroperitoneal space. After transection of ovarian proper ligament, posterior leaf of broad ligament is separated to cranial direction in dorsal side of infundibulopelvic ligament. Traction is applied on cutting edge of posterior leaf of broad ligament, so wide entrance to retroperitoneum is obtained. Identify cross point of ureter and iliac artery and develop retroperitoneal space along hypogastric artery. Consecutive cases of surgical video of 7 cases of total laparoscopic hysterectomy by cranial approach was compared to 7 consecutive cases by anterior approach on periureteral electrocauterization before and after colpotomy. Fisher's exact test is used for statistical analysis.

Results

Ureter and hypogastric vessels are automatically identified by this approach. Bloodless procedure is achieved with sharp dissection in developing pararectal space of Latzko ('space oriented approach'). Case dependent instability of quality in identifying ureter and uterine artery is disappeared and no periureteral coagulation procedure is needed. Total sides of electrocautery attempted in 7 cases are decreased significantly in cranial approach before colpotomy (13/14 vs. 0/14, $p=0.000000748$) and after colpotomy (9/14 vs. 0/14, $p=0.00058$) compared to anterior approach.

Conclusions

'Cranial approach' with wide separation of posterior leaf of broad ligament, together with 'space oriented approach' is a reproducible technique free from periureteral coagulation procedure. Ureter and hypogastric vessels including uterine artery is automatically identified. Although this approach is originally applied in malignant cases, we encourage this approach to apply in benign condition for beginners.

<https://player.vimeo.com/video/554247997?autoplay=1>

Does hysteroscopic metroplasty improve fertility results? A case report

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Background

To highlight the importance of the morphology of the uterine cavity in women with recurrent implantation failure

Methods

I present the case of a woman 37-years-old with recurrent implantation failure, she had 3 failed embryo transfers with egg donation. The examination is normal, normal external genitalia and vagina, nulliparous cervix well epithelized, regular uterus and annexes without palpable pathology. In the 2D ultrasound, the uterus has an indifferent position, regular contour and homogeneous endometrium, with midline 2 mm. Annexes looks normal and douglas free. A study of acquired and congenital thrombophilis is requested, which is negative

In the 3D reconstruction with transvaginal ultrasound, was diagnosed a disturbance in uterine cavity: a T shaped, category U1a of the European Society for Gynaecological Endoscopy, and meets the Congenital Uterine Malformation by Experts diagnostic criteria: exterior angle greater than 130 grades, wall thickness grater than 7 mm, inside angle less than 40 grades

The metroplasty was made with microscissor. The surgical procedure consisted in performing straight cuts at the level of the prominent lateral myometrial walls and to widen it after the incision.

Nine and three o'clock were used as a guide from the isthmic region and in the direction of the tubal orifices. The operation was considered complete when the tubal orifices were seen from the isthmic area of the uterine corpus.

Hyaluronic acid was introduced in the uterine cavity after surgery as a mechanical barrier between the uterine walls thus preventing the formation of adhesions

Results

After hysteroscopy, the patient was referred for a new in vitro fertilization with egg donation and she gave birth to a healthy girl at week 38 of gestation

Conclusions

Evaluation of the uterine cavity in a woman with recurrent implantation failure is a priority. Currently, metroplasty is considered the first therapeutic option for treating dysmorphic uteri. Some authors recommend, that in patients with recurrent pregnancy loss and preterm delivery can improve obstetric outcomes. However, it is still not entirely clear whether patients with recurrent implantation failures and at the same time with dysmorphic uterus can benefit from hysteroscopic metroplasty and improve their reproductive outcomes.

<https://player.vimeo.com/video/554505404?autoplay=1>

From chaos to order: Restoring anatomy in a frozen pelvis-diaphragmatic endometriosis and segmental bowel resection for full thickness bowel nodule

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Background

Frozen pelvis/deep infiltrating endometriosis is one of the most intimidating spectacles a gynaecologist can come across during a laparoscopy. In this video we demonstrate our structured approach used in our unit in order to restore anatomy in cases of frozen pelvis. In this specific case we perform a segmental bowel resection for a full thickness sigmoid nodule as well as excision of superficial diaphragmatic endometriosis.

Methods

This is an edited video of a procedure performed at our newly established Endometriosis unit in Mediterraneo Hospital, Athens, Greece

Results

We follow a structured approach which is called by the mnemonic "SO SURE Resection". This mnemonic is routinely used as a guide in the Centre of Endometriosis and Minimal Invasive Gynaecology (CEMIG), Chertsey, UK.

Depending on the case there may be an adjustment on the above order but in general the acronym itself is a well structured approach that facilitates the procedure.

The stages of the excision are as following:

1. **S**urvey of lower and upper abdomen and **S**igmoid mobilization
2. **O**varian mobilization (combination of sharp/blunt dissection)
3. a. **S**uspension of uterus using sutures
b. **S**uspension of ovaries
4. **U**reterolysis
5. **R**ectovaginal septum entry (disease is preferably left on the uterus and normal tissue is entered in the rectovaginal space)
6. **E**nter into pararectal space

Resection of the endometriotic nodule/nodules (care is taken to lateralise the hypogastric nerve)

At the end of the procedure we perform the Michellin test to ensure the integrity of rectal wall.

Conclusions

Following a structured approach ensures a safer and quicker procedure no matter how advanced the disease is. It also provides a cleaner and more satisfying surgical field where all anatomical structures, including the hypogastric nerves) can be easily seen and preserved.

<https://player.vimeo.com/video/555626039?autoplay=1>

Laparoscopic excision of right sacrouterine ligament deep infiltrative endometriosis nodule which was compressing right ureter extrinsically and resulting with silent hydronephrosis: A case report

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Background

In this case presentation we highlighted clinical presentation, diagnostic evaluation and surgical management of an infertile woman with a right sacrouterine ligament deep infiltrative endometriosis nodule causing lower ureteral obstruction and hydronephrosis.

Methods

A 40 year old infertile woman has presented to our institution's endometriosis polyclinic complaining with chronic pelvic pain and deep dyspareunia. She was married for 10 years and she has undergone 3 in vitro fertilization and embryo transfer treatment cycles due to male factor and endometriosis. An ectopic pregnancy was established following one of these treatments which has been managed expectantly. We have detected a 6 centimeters right ovarian endometrioma, 2 centimeters left ovarian endometrioma and 3 centimeters anterior subserous uterine leiomyoma upon physical and transvaginal ultrasonographic examination. Also, sliding sign was negative and a 3 centimeters deep infiltrative endometriosis nodule was detected on the right sacrouterine ligament. During bimanual examination; a hard, indurated and painful nodule on the right sacrouterine ligament has been palpated causing significant pain. Magnetic resonance imaging examination of the lower abdomen and pelvis region has confirmed a 38x16 millimeters right sacrouterine deep infiltrative endometriosis nodule causing hydronephrosis and significant dense pelvic adhesions (Figures 1, 2). Renal scintigraphy has been performed to evaluate the function of the affected right side. Upon intravenous injection of 5.00 mCi Tc99m-MAG3; vascularisation and urine concentration function of the right kidney have been found to be significantly decreased. Urine excretion function has been found to be prolonged and response of the right kidney to the diuretic injection was insufficient (Figure 3). The contribution of right kidney to overall renal function has been found to be 15%. Left renal function was completely normal and blood urine nitrogen and creatinine levels were within normal range.

Results

A double J urinary stent has been introduced into the right ureter by urology department preoperatively. Following adhesiolysis and restoring pelvic anatomy, we dissected right ureter downwards and we detected a right sacrouterine ligament deep infiltrative endometriosis nodule encircling right ureter. After lateralizing right ureter, we completely excised this nodule and liberated right ureter from external compression. Ureteral partial excision and ureteroureterostomy have not been considered necessary at the discretion of the primary surgeon. Bilateral ovarian endometrioma cyst excisions have been performed (Video 1). Postoperative course of the patient was uneventful and she was discharged 2 days later following surgery to come back for extraction of double J ureteral stent on sixth week postoperatively. The patient has been found to be in complete relief from chronic pelvic pain and deep dyspareunia during follow up examination.

Conclusions

Despite being a rare clinical presentation of deep infiltrative endometriosis, sacrouterine ligament nodules can potentially encircle ureters and cause extrinsic ureteral compression and silent hydronephrosis. Resection of ureteral endometriosis is mandatory.

<https://player.vimeo.com/video/555897810?autoplay=1>

**ES30-0232 -
Laparoscopic surgery**

Laparoscopic myomectomy of an anterior cervical fibroid 6 X 5 cm in a virgin

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Background

Cervical fibroids represents a dilemma in their management specially laparoscopic approach, when myomectomy is needed it will be very tricky and risky. Laparoscopic myomectomy in a virgin is more difficult because it is not allowed to put a uterine manipulator (put in mind that in eastern countries virginity is a very crucial issue). In this video we present a case of laparoscopic myomectomy for anterior cervical fibroid 6 X 5 cm in a virgin.

Methods

A 38 year old virgin with no medical or surgical history. Preoperative ultrasound and MRI didn't show it was cervical. In laparoscopy it appeared to be anterior cervical 6 X 5 cm. The decision was to proceed laparoscopically. The incision was high to be away from the bladder. After cephalad traction of the myoma by myoma screw the bladder was carefully dissected. Traction and counter traction till removed from the uterus. The defect was closed in layers with preservation of the opened cervical canal.

Results

The myoma was extracted by cold morcellation in an endobag. The postoperative course was uneventful. The patient had regular normal periods afterwards.

Conclusions

Laparoscopic myomectomy for cervical fibroids is feasible after adequate knowledge of anatomy and taking necessary precautions.

<https://player.vimeo.com/video/556427329?autoplay=1>

**ES30-0236 -
Technical innovation in minimal invasive surgery**

Use of a flexible and rotatable diathermy hook to perform a TLH: a world first

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Background

Since the first TLH was performed in 1989 by Harry Reich, many different techniques have been employed. All have limitations either in terms of adequacy of haemostasis or the ability to dissect. Some require to be changed frequently during an operation and many are very expensive and require more than one instrument to be used.

Methods

This video shows the use of a new monopolar diathermy hook produced by DEAM. It is the first hook which is rotatable through 360 degrees and which may be flexed at the tip at an angle of 45 degrees in any direction. These features provide the optimal angle of use without obstruction of the view

Results

A world first TLH was performed using this instrument in conjunction with a standard bipolar grasping forceps. The hysterectomy was complicated as the patient had had a previous left adnexectomy, segmental rectal resection and pelvic and subphrenic abscesses. The hysterectomy was performed within 60 minutes without complication.

Conclusions

The flexible and rotatable hook produced by DEAM provides excellent dissection and cutting with the provision of optimal views and offers a new instrument for the performance of TLH particularly where substantial dissection is required.

<https://player.vimeo.com/video/556546161?autoplay=1>

**ES30-0240 -
Laparoscopic surgery**

Laparoscopic repair of a rectal injury by the uterine manipulator in TLH

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Background

Uterine manipulator is fundamental in total laparoscopic hysterectomy (TLH). Its insertion must be under caution. In this video we will present a rare challenging case where the second assistant wrongly inserted the uterine manipulator in the Douglas pouch perforating the densely adherent rectum in the frozen pelvis!!

Methods

46 year old patient, para three vaginally, medically and surgically free. The patient was indicated for hysterectomy due to adenomyosis and fibroid uterus. The patient appeared to have frozen pelvis. With manipulation of the uterus by the uterine manipulator, it appeared to be within the rectum !!!! the second assistant wrongly inserted the uterine manipulator in the Douglas pouch perforating the densely attached rectum!!! The surgeon was called and decided laparoscopic primary repair of the rectum. We finished the hysterectomy first to free the pelvis. The rectum was sutured in two layers.

Results

The patient remained in the hospital for 5 days. The first three days was NBO (nothing per oral). After that gradual introduction of fluids, semisolids then solids. The drain was removed before discharge. Postoperative course was uneventful.

Conclusions

The uterine manipulator must be inserted cautiously. Primary laparoscopic colonic repair can be safely performed.

<https://player.vimeo.com/video/556672425?autoplay=1>

Myoma hysteroresection in patient with genital tract anomalies

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Background

It's a case of 28 year old woman, married who suffered from dyspareunia and impossibilities to do intercourses.

She had female genital tract anomalies: according to ESGE/ESHRE classification U2b, hypoplastic fibrous cervical with septum so hard to classify and longitudinal obstructing vaginal septum V2.

She had a regular menstruation

Examination revealed abnormal external genitalia with external urethral orifice in the middle and a very small (02mm) external vaginal orifice without hymen.

MRI revealed a septate uterus, separte hypoplastic cervix (1.3 cm of length) and septate vagina which was short (05cm).

Normal ovaries and right hydrosalpinx

Methods

She underwent multiple surgeries

The first one in 2016 : Dilatation of the external vagina orifice which allowed to introduce the hysteroscope and made a septal vaginal resection with (monopolaire 27ch)

In the upper part of vagina was a small orifice without visualization of the cervix, therefore it seemed to be an upper vaginal diaphragm (transversal vaginal septum)

In the same operating time, we tried to cut this internal upper vaginal orifice but it was really haemorrhagic and difficult as the vagina was narrow nevertheless, we stopped the bleeding by suturing this upper vagina with laparoscopic needle holders. 2016 laprotomy for resection the uterus septum. 2017 creation of new patent cervix by laparotomy. 2021 hysteroresection for myoma type 0 using mini resectoscope.

Results

After many surgeries the patient had a normal intercourse and the vagina was getting longer (07cm).

The patient has now a normal triangular uterine cavity with hypoplastic septal cervix with atretic right cervix and patent left cervix.

The vagina has an upper orifice that could be correspond to a diaphragm (transversal vaginal septum).

The small resectoscope 18.5 ch bipolar, allowed us to performe myomectomy without dilatation of abnormal cervix.

Conclusions

In this video we illustrate a surgery by hysteroscopy performed in patient with background of tract anomalies who underwent many surgeries and due to the mini bipolar resectoscope 18.5 ch a myoma typo 0 according to FIGO classification before IVF was removed through the abnormal vagina and cervix.

<https://player.vimeo.com/video/556701725?autoplay=1>

**ES30-0249 -
Fibroids, including morcellation OR tissue extraction**

Reversible blood vessel occlusion at laparoscopic myomectomy - a modified haemostatic technique

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Background

Introduction and objective: Fibroids are the most common uterine tumors in women of any age, with a 30% lifetime prevalence. They can cause heavy menstrual bleeding, pressure symptoms, pain, and subfertility. Treatment can be medical or invasive with MRI-guided focused ultrasound, uterine artery embolization, minimally invasive surgery (hysteroscopic/laparoscopic myomectomy), and open surgery (myomectomy/hysterectomy). Laparoscopic myomectomy is the treatment option of choice for women with symptomatic fibroids, who wish to preserve their fertility with the benefit of a quicker recovery.

One of the main concerns during a myomectomy is limiting the blood loss intraoperatively. There is a variety of haemostatic techniques available, however one of the most effective was proven to be the reversible occlusion of the uterine arteries. We are proposing the additional occlusion of both the infundibulopelvic and round ligaments in order to further limit the blood loss without significantly increasing the operating time of a laparoscopic myomectomy.

Methods

Materials and methods: We are presenting a stepwise demonstration of the procedure, with explanation and surgical video of two patients undergoing laparoscopic myomectomy (for multiple myomas and for a 10 cm intramural myoma). Before starting the myomectomy, a stepwise reversible devascularisation of the uterus with surgical clips was undertaken in the following order:

1. bilateral clipping of the uterine artery, using the posterior approach
2. bilateral clipping of the infundibulopelvic ligaments
3. bilateral clipping of the round ligaments.

Laparoscopic myomectomy was then performed with a standard technique. The surgical clips were removed from the uterine arteries and both infundibulopelvic (IP) and round ligaments at the end of the procedure.

Results

We reviewed 30 patients who underwent a laparoscopic myomectomy between 2015 and 2019 with this technique and had a 6-8 weeks follow-up. The average operating time was 19 min and time to occlusion of the arteries was 12.5 min (vs respectively 75 and 14 min reported in the literature) with minimal blood loss and no complications. The mean operating time was not longer than the reported in the literature, although some patients underwent additional procedures within the same surgery. We are also presenting fertility outcomes for the patients who were followed up in our center and a literature review on the data available for this technique.

Conclusions

Conclusion: The reversible occlusion of the infundibulopelvic and round ligaments in addition to the uterine artery does not increase the operating time of a laparoscopic myomectomy and may further limit the blood loss. Larger studies are needed to investigate the surgical outcomes in detail and account for any short- and long-term complications.

<https://player.vimeo.com/video/556805813?autoplay=1>

Conservative treatment of voluminous endometrioma: Laparoscopic ethanol sclerotherapy

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Background

Large endometriomas are known to be a cause of pain and infertility in patients. Their treatment often consists of a cystectomy or adnexectomy, which is detrimental to the ovarian reserve. This case report is about a 28-year-old woman, in a context of infertility for 2 years, with a 13 cm left ovarian endometrioma and a poor ovarian reserve (AMH 0.88ng/ml). It shows a new approach to the management of these large endometriomas in order to improve the symptomatology, preserve the ovarian reserve and increase the chances of success in medically assisted procreation.

Methods

The management of endometriosis is based on laparoscopic ethanol sclerotherapy. The patient is first given a LHRH analogue injection. A laparoscopic endometrioma puncture is then performed to reduce cyst size. A laparoscopic balloon trocar is used for this purpose to ensure a seal. Then the cyst is alcoholized with 60 cc of ethanol for 10 minutes.

Results

The postoperative follow-up is simple and shows an excellent response with a reduction in the size of the cyst to 6 cm on the MRI re-evaluation at 1 month.

The ultrasound control at 6 months post-operative shows a further reduction in the size of the endometrioma. It was then measured at 3x2cm.

Moreover, the biological assessment at 6 months displays the conservative nature of the treatments on the ovarian reserve with AMH measured at 1.45 ng/ml.

The patient could therefore be integrated into an IVF protocol, currently in progress.

Conclusions

In our clinical case we have thus shown that it is possible to manage voluminous endometrioma in a satisfactory way while preserving the ovarian reserve by laparoscopic ethanol sclerotherapy. This allows on the one hand to limit the morbidity linked to heavier surgery, in particular during adnexectomies, and on the other hand, to increase the chances of success of the assisted reproduction protocol in our patients.

<https://player.vimeo.com/video/556894808?autoplay=1>

ICG-assisted nerve-sparing paraaortic lymph node dissection

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Background

There are a lot of sympathetic nerve fibers lying in front of the abdominal aorta, and around the inferior mesentery artery. These nerve fibers are intermingled with lymphatic tissues, and are frequently destructed during the paraaortic lymph node dissection procedure. ICG injection for sentinel lymph node detection and removal is getting more and more popular, with the main purpose to minimize the numbers of removed lymph nodes, so as to decrease the morbidities and complications after complete lymphadenectomy. In this video, we are trying to illustrate another benefit of ICG injection: differentiation between lymphatic tissues and nerve fibers. The pre-aortic sympathetic nerve fibers will not be stained after transcervical or transfundal ICG injection. This will help us to maximally preserve the sympathetic nerve fibers even during more radical paraaortic lymph node dissection.

Methods

Video review of a case with endometrial cancer, receiving laparoscopic cancer staging

Results

ICG was injected into both the uterine cervix area and the bilateral uterine cornus. Gradually, the pelvic and paraaortic lymph nodes will become ICG (+), while the nerve fibers will remain ICG(-). By tracing the ICG(-) nerve fibers, those important pre-aortic/paraaortic sympathetic nerve fibers (including inferior hypogastric plexus, intermenstery plexus, inferior mesentery ganglia and plexus, and even sympathetic trunk) can be identified and preserved as possible.

Conclusions

ICG injection is not only an important way for sentinel lymph node detection, but also may be useful for performing nerve-sparing paraaortic lymph node dissection.

<https://player.vimeo.com/video/556997459?autoplay=1>

Adnexal masses in pregnancy: Laparoscopic approach

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Background

The incidental diagnose of asymptomatic adnexal masses in pregnancy is increasing since the first trimester ultrasound screening is widely available. Surgical treatment is advised for large masses to avoid acute complications. The video presents a case report diagnosed and managed in our centre. Patient informed consent was obtained.

Methods

Case Report: A healthy 30 years primigravida, 12 weeks of gestation, was addressed to our centre for first trimester screening. An 11 cm right adnexal mass and a 6,7 cm left adnexal mass were detected, consisting of unilocular cysts with no septa or papillary projections. At 21 weeks, right adnexal mass was 13 cm in diameter. A magnetic resonance confirmed this finding and showed anatomical relation with galblader and a new 4 cm unilocular cyst in the left ovary. Tumoral markers were negative. A laparoscopic bilateral cystectomy was performed at 24 weeks. First, the larger cyst was drained. Owing to the dimensions of the cyst, the ovary and cystic capsule were exteriorized through an abdominal wall port. The capsule was removed from the ovary and the right adnexa was reintroduced into the abdominal cavity. The same procedure was performed for both left cysts.

Results

The laparoscopic bilateral cystectomy operative time was 120 minutes. No surgical or postoperative complications occurred and the patient was discharged home after 3 days. Pathology showed mucinous cystadenomas. No obstetrical complications were described. A vaginal delivery occurred at 39 weeks gestation after spontaneous labour. The new-born boy was 3430g, Apgar score 9/10/10, and no neonatal complications occurred.

Conclusions

Less uterine manipulation, shorter operative time, length of hospital stay and less postoperative pain related to laparoscopic approach, make this the preferential surgical approach. Our video highlights the importance of gestational age at the time of intervention, in order to minimize the risk of spontaneous abortion/preterm labour.

<https://player.vimeo.com/video/556972075?autoplay=1>

Vaginal angle elevation: Its use in decreasing operative time in Total Laparoscopic Hysterectomy

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Background

We present a technique for vaginal vault closure using a stay stitch with 2/0 vicryl to aid easy closure of the vaginal vault after a Total Laparoscopic Hysterectomy. The vault is still closed using a corrugated suture however this technique frees the assistant to aid visualisation for the surgeon and allows the surgeon to decrease operating time.

Methods

We demonstrate in this video the step-by-step approach to closing the vaginal vault after a TLH with the aid of the stay stitch at the left side. We discuss the technique for insertion of the suture as well as the port site locations. We also discuss the steps to maintain the angle elevation and the advantages of this technique. The closure method is demonstrated in full. We also discuss our average operating times in relation to cases where this technique is not used.

Results

n/a

Conclusions

The technique of vaginal vault elevation and its benefits are discussed. Common challenges and pitfalls discussed and the technique is fully demonstrated from port insertion and needle insertion through the port to removal. This is an effective technique for technically challenging surgeries where the assistant is required to help obtain a good view of the vault as well as retracting bowel. This also allows safer closure of the vault and is a technique worth sharing.

<https://player.vimeo.com/video/561599372?autoplay=1>

Laparoscopic excision of deep layer of rectus sheath endometriotic nodule in an obese patient

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Background

Abdominal wall endometriosis often occurs after a caesarean section or pelvic surgery with an incidence of 0.03%-2%. The predominant clinical picture is cyclical pain, palpable subcutaneous mass and skin bruising.

We present a case of laparoscopic excision of a large endometriotic nodule arising from the anterior abdominal wall located in the midline, seven centimetres cranial to the symphysis pubis, within the deep layer of the rectus sheath.

Methods

Our patient presented to the gynaecology outpatient clinic with an apparent musculoskeletal pain from the abdominal wall, between the umbilicus and the pubic bone. The lesion was impalpable on abdominal examination due to the depth of the lesion and the patient's body habitus; however, it was subsequently seen on an MRI scan.

We used two operating ports. One in the left iliac fossa and the second one in the left upper quadrant to access the lesion during laparoscopy. The laparoscopic excision was performed with the aid of ThunderBeat and a monopolar hook. The excised area left a defect in the rectal sheath that was repaired with mass closure using PDS.

A second continuous "v-lock" suture was used to approximate muscle edges and strengthen the repair.

Results

The nodule was removed through the 10 mm paraumbilical incision. Performing the operation laparoscopically carried all the benefits of minimally invasive surgery, allowing our patient to be discharged home the same evening.

Conclusions

Abdominal wall endometriosis is a rare condition, but it should always be kept in mind when treating females who present with recurrent cyclical abdominal pain. Definitive management and cure are provided only by complete excision of the disease.

<https://player.vimeo.com/video/557151917?autoplay=1>

Laparoscopic management of intraoperative bleeding

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Background

With the continuous progress in laparoscopic surgery, we continue to perform surgery that perhaps would have been deemed inoperable in the past. However, the technical challenge of operating in deep and narrow pelvic spaces can lead to significant complications.

One of the most feared and, therefore, highly stressful complication is intraoperative haemorrhage. Severe bleeding is one of the most common causes of conversion from laparoscopy to laparotomy.

In this video, we would like to present a series of 3 operations where intraoperative bleeding was controlled laparoscopically from a branch of the internal iliac artery during excision of very deep endometriosis, a vessel crossing the lumbosacral trunk and a very large presacral vein.

Methods

In all cases, the bleeding was controlled laparoscopically. Haemostasis is achieved by effectively exposing the bleeding culprit by dissecting and identifying critical anatomical structures. With the active cooperation of an assistant, the surgeon uses the grasper to clamp the vessel firstly. Vascular clips and electro-coagulation are used to seal the vessels, and, in the end, FloSeal secures haemostasis.

Results

This presentation highlights how precise teamwork between the operator, first assistant, anaesthetist and theatre staff are crucial to control bleeding, reduce complications, and avoid conversion from laparoscopy to laparotomy.

Conclusions

Intraoperative bleeding can be remarkably stressful not only for the surgeon but also for the wider theatre team. Composure, good communication and a systematic approach are crucial in those rare but stressful situations. One should always consider conversion to laparotomy and vascular support, but it is important not to act impulsively as conversion to laparotomy might be more challenging in achieving haemostasis in deep and inaccessible pelvic spaces.

<https://player.vimeo.com/video/557157941?autoplay=1>

Impact of endometriosis surgery on the success rate of spontaneous conception

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Background

To what extent the endometrioma surgery influences the ovarian reserve and spontaneous conception is controversial. To further investigate this topic, we conducted a retrospective analysis examining spontaneous conception rate after endometrioma surgery.

Methods

Data from 211 women ≤ 40 years of age who underwent an endometrioma surgery at a university-based infertility clinic between January 2005 and June 2020 were reviewed retrospectively. Main outcome measure was spontaneous clinical pregnancy. 84 women with and 127 women without a successful spontaneous conception formed the case and control groups. Univariate analysis and multiple logistic regression analysis were performed to determine factors associated with spontaneous conception.

Results

The median age of the case group was 27 years and control group 32 years ($p < 0.001$). 25 patients (29.8%) in the case group and 67 patients (52.8%) in the control group had recurrence detected by ultrasound ($p = 0.001$). Due to endometrioma recurrence, four patients (16%) in the case group and twenty-three patients (34.4%) in the control group were operated for a second time (p -value = 0.122). One patient (1.2%) in the case and fifteen patients (11.8%) in the control group had a history of unilateral salpingectomy or had a unilateral salpingectomy during the operation (p -value = 0.003). Both of the ovaries were present in all patients in the case group and twelve patients (9.4%) in the control group had a history of unilateral oophorectomy or had an oophorectomy during the operation (p -value = 0.002). The majority of women in both groups underwent laparoscopy, with the laparoscopic rate being significantly higher in the case group (97.5% vs. 84.3%; p -value = 0.002). Our results showed no differences in the number, size, or side of the endometriomas in both groups. No significant differences were shown also in body mass index (BMI), smoking status, previous pregnancies, chronic cyclic pain before surgery and hormonal add back therapy after the operation. Multivariate regression analysis showed a significant independent effect of age and recurrence of endometrioma for spontaneous conception after surgery.

Conclusions

Maternal age and endometrioma recurrence were the main influencing factors of the success rate of spontaneous conception. The number, size, or side of the endometriomas did not affect the success rate of spontaneous conception. A favorable preoperative ovarian reserve and a cystectomy performed by an experienced surgeon may imply postoperative pregnancy after endometrioma surgery.

<https://player.vimeo.com/video/557298520?autoplay=1>

Encouraging the Burch procedure in patients with stress urinary incontinence who undergo laparoscopy: simplifying the technique

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Background

Laparoscopy has taken the place of laparotomy in benign gynaecological surgery over the years. Colposuspension is also possible with a laparoscopic approach. Stress urinary incontinence (SUI) has an observed prevalence of 4-35%. SUI accompanies approximately 20% of patients who undergo laparoscopic hysterectomy. Objective is to present a simple 6-step approach to the laparoscopic Burch procedure to encourage its application in patients who are undergoing laparoscopic surgery for other gynaecological indications.

Methods

49 years old female patient who was referred to our tertiary gynaecology clinic because of abnormal uterine bleeding due to uterine fibroids and SUI. The patient received laparoscopic hysterectomy and followed by Burch colposuspension.

Results

6 simple steps of laparoscopic Burch colposuspension is presented in the video. The 6 steps are as follows: 1 – Peritoneal incision, 2 – Dissect the fat tissue, visualize the pubic bone and reach the white line and paraurethral vagina, 3 – Extracorporeal suturing 4 – Check the bladder, 5 – Close the peritoneal incision.

Conclusions

Laparoscopic Burch colposuspension can be performed through the same laparoscopic route as the laparoscopic hysterectomy. Thus, a new route such as vaginal access is not needed. It also allows colposuspension without the use of a mesh implant, which is associated with complications such as mesh erosion. Therefore, laparoscopic Burch procedure should be encouraged in patients who are undergoing laparoscopy for other benign conditions.

<https://player.vimeo.com/video/557327140?autoplay=1>

Side to side fully laparoscopic bowel anastomosis after bowel segmental resection with extended hysterectomy due to deep infiltrated endometriosis

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Background

The surgical treatment of deep infiltrating endometriosis is hard and complex. The patient should be treated in referral centers with a multidisciplinary team with adequate training in advanced laparoscopic surgery. One of the most challenging things during laparoscopic procedure is resection of endometriosis nodules in hepar, peritoneum and intestines.

In our video we would like to present a case of 35-year old woman with 15 years story of pain, dysmenorrhoea 7/10 , dyschesia 9/10, diarrhoea , blood in stool and a few hospitalisations because of subileus without the final diagnosis.

On MRI scan we observed 8 cm nodule in the sigmoid colon with 80% narrowing of its lumen.

Methods

Laparoscopic extended hysterectomy due to endometriotic infiltration of parametria and paracolpium was done. Laparoscopic segmental resection of the sigmae with the endometriotic nodule using the ICG method for visualization of the bowel vascularity was performed. Fully laparoscopic side to side anastomosis of two ends of the bowel using 60 mm linear stapler was done with the intracorporeal suturing of the hole in the bowel. Segment of the bowel with the endometriotic nodule was evacuated from the abdomen through the vagina which was later intracorporeally sutured.

Results

After 4 days of hospitalisation symptoms were subsided. Complete surgical wound healing on the control visit after 3 months.

Conclusions

Radical treatment in deep infiltrated endometriosis leads to full releasing of all pain symptoms and is recommended in the group of women who realized their maternity plans

<https://player.vimeo.com/video/557329233?autoplay=1>

Submucosal adenomyotic cyst of the uterus: hysteroscopic findings and treatment

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Background

Adenomyosis is defined by the presence of endometrial like tissue within the myometrium. Cystic adenomyoma is among the less common forms of adenomyosis, which was first described by Cullen in 1908. The cavity of the cystic structure is lined with endometrial mucosa, surrounded by myometrial tissue and is usually filled with hemorrhagic material. The objective is to present a rare case of submucosal adenomyotic cyst and its hysteroscopic resection

Methods

40 years old gravidity 0 parity 0 patient presented with dysmenorrhea and infertility with a history of two failed IVF cycles. She reported her pain as 7-8/10 with visual analogue scale (VAS). Her transvaginal ultrasound examination revealed a submucosal cystic lesion protruding into the endometrial cavity, which was confirmed with magnetic resonance imaging (MRI).

Results

Hysteroscopic resection of the cystic lesions was performed and attached here as a video presentation

Conclusions

Hysteroscopic resection of submucosal adenomyotic lesions can be the choice of treatment for patients with fertility wish. Although a 30-degree optical system is commonly used, it can be difficult to visualize intramural lesions such the one described in this video presentation. Optical systems with degrees greater than 30 can be developed to ease these procedures.

<https://player.vimeo.com/video/557337585?autoplay=1>

Subtotal laparoscopic hysterectomy followed by in-bag transvaginal specimen extraction

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Background

Subtotal laparoscopic hysterectomy (SLH) has been proposed as a safe alternative to total laparoscopic hysterectomy in case of benign disease. Specimen retrieval is peculiarly a challenging part of SLH.

The FDA warned about the use of power morcellators, given the concerns about peritoneal seeding of unsuspected malignant cells. This led to perform laparotomies for specimen extraction.

Methods

To maintain the advantages of the minimally invasive approach, we propose a novel technique to accomplish SLH followed by in-bag specimen morcellation and transvaginal contained extraction.

Results

After creation of the pneumoperitoneum, four 5mm trocars are placed for the instruments. A vaginal-extractor trocar is used as uterine manipulator. Corpus uteri is skeletonized in standard fashion and detached from the cervix using the Lap-Loop system. Once accomplished the SLH, a specimen retrieval device is introduced through the vagina and pushed towards the posterior vaginal fornix, underneath the torus uterinum, between the uterosacral ligaments. Transverse colpotomy (approximately 2 cm) is performed under laparoscopic vision using a monopolar hook. The endo-bag is introduced and opened in the abdominal cavity allowing the surgeon to put the specimen inside. Thereafter the bag is tightened by the assistant. The margins of the pouch are retrieved and exteriorized outside the vagina. Morcellation is performed manually with instruments such as clamps, scissors or scalpels. Vaginal valves are required to avoid unintentional injuries of the surrounding tissues; the procedure is carefully carried out within the pouch. Once removed, the endo-bag is checked for integrity assessment. The colpotomy is closed with a vaginal approach using a running 1-0 medium-term absorbable suture. The surgeon will then laparoscopically assess the proper hemostasis and close the peritoneum above the cervical stump with intracorporeal running suture.

Conclusions

SLH followed by in-bag transvaginal specimen extraction has the advantages of a minimally invasive approach and overcomes the concerns of uncontained morcellation.

<https://player.vimeo.com/video/557306417?autoplay=1>

Surgical treatment of bladder endometriosis

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Background

Endometriosis affects about 10% of women in the general population. Urinary tract involvement is less frequent (1%) and bladder is the most commonly affected organ. However, in the subpopulation of women with deeply infiltrating endometriosis, urinary tract endometriosis is detected in 20 to 50%.

Methods

Present a video of laparoscopic treatment of bladder endometriosis with partial cystectomy.

Video was recorded during laparoscopic surgery

Results

This video refers to a 43-year-old healthy woman with abnormal uterine bleeding, hematuria and episodes of dysuria and pelvic pain. She had been previously submitted to cystoscopy with biopsy confirming endometriotic lesions. Transvaginal ultrasound and pelvic magnetic resonance were performed and showed an intramural vesical lesion with irregular margins adjacent to vesicouterine pouch. One year later, due to persistence of symptoms despite medical treatment, she was proposed to laparoscopic hysterectomy and resection of bladder endometriotic lesion.

During per-operative cystoscopy, ureteral ostia were not visualized due to the location and extent of the lesion ureteral stents were not placed.

On laparoscopic inspection, we observed a medial retractile lesion at vesicouterine pouch involving round ligaments. Partial cystectomy was performed after extensive ureterolysis until the uretero-vesical junction, dissection of paravesical space and utero-vesical pouch up to the trigone. A continuous two-layer suture was made to close the bladder, both horizontal and vertical. To reduce risk of vesico-vaginal fistula, a subtotal hysterectomy was performed. According to extensive endometriotic lesions, bilateral oophorectomy was made to avoid symptom recurrences. Urine flow from ureters was observed during surgery and methylene blue test was performed to check bladder integrity after suturing.

One month after surgery, the patient is asymptomatic, with subjectively less vesical capacity, but without hematuria, dysuria or urinary incontinence.

Conclusions

Laparoscopic treatment of bladder endometriosis requires an experienced laparoscopic surgeon with dissection and suturing advanced skills. A multidisciplinary approach is fundamental, and we counted with urologist's collaboration for the attempt of ureteral catheterization and per-operative advice.

<https://player.vimeo.com/video/557344799?autoplay=1>

Successful management of a complicated cervico-isthmic stenosis

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Background

To demonstrate intraoperative steps in the successful management of a complicated cervico-isthmic stenosis aiming at the restoration of healthy uterine cavity anatomy and healthy bleeding patterns.

Methods

We present the case of a 42-year woman (gravida 3 para 0) who came to our attention because of a secondary amenorrhea and a history of hematometra after a previous laparoscopic myomectomy performed 13 months before and two subsequent hysteroscopies that were unsuccessful due to the presence of a complicated cervico-isthmic stenosis. During the second hysteroscopy, the operator also raised the suspicion of an iatrogenic perforation of the anterior isthmic wall of the uterus, determining a non-communicating endometrial cavity. She was also under treatment with a GnRH agonist for six months to avoid the occurrence of hematometra.

With use of a small (5-mm) telescope (Karl Storz), we performed a diagnostic hysteroscopy confirming the presence of either cervico-isthmic stenosis, uterine perforation and the non-communicating endometrial cavity.

We therefore decided to perform laparoscopic surgery in order to repair the uterine perforation and to restore a healthy uterine cavity anatomy.

Results

We introduced the uterine manipulator through the above-mentioned cervico-isthmic perforation in order to achieve a partial mobility of the uterus and a precise view of the lesion. We performed a vertical uterine incision at the level of the anterior wall of the isthmus down through the myometrium until the endometrial cavity was detected. The normal uterine cavity anatomy was then restored, and the uterine manipulator was introduced in the distal uterine cavity to ensure the continuity between the cervical canal and the endometrial cavity before suturing the anterior uterine wall with interrupted stiches. Finally, a dilute solution of methylene blue dye was instilled through the transcervical cannula associated with uterine manipulation and the spillage of the dye from each tube confirmed the integrity of the whole uterine anatomy, as well as bilateral tubal patency.

One week later, we performed a second diagnostic hysteroscopy to confirm the integrity of the surgical scar and to introduce a Levonorgestrel intrauterine device in order to maintain the integrity of the newly restored uterine cavity.

Conclusions

Complicated cervico-isthmic stenosis with non-communicating endometrial cavity may be successfully repaired using minimally invasive surgery to restore a healthy uterine cavity anatomy.

<https://player.vimeo.com/video/557348424?autoplay=1>

Hydronephrosis secondary to right deep infiltrating parametrial endometriosis - multidisciplinary management is crucial

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Background

Urinary tract endometriosis occurs in 0.3-12% of women with endometriosis; it involves the bladder in 85% of cases and the ureter in 10% of cases. Ureteral deep endometriosis requires a high level of surgical skill

Methods

A 25-year-old nulliparous patient presented with 6 months history of repeated episodes of severe dull aching right iliac fossa pain and dyschezia. There was no dysmenorrhea, dysuria or haematuria. On vaginal examination, a fixed hard lump was felt in the pouch of Douglas. Pelvic MRI revealed a 7 cm right ovarian endometrioma, with fibrosis extending to the rectum but no rectal involvement and deep infiltrating endometriosis involving the right ureter and causing proximal ureteric obstruction with preservation of the right renal cortex. CA125 was 60 U/mL and AMH was 15.7 pmol/L.

Results

Examination under anaesthesia revealed a full thickness 2cm right sided vaginal nodule. Multidisciplinary care involved preoperative retrograde studies that showed right hydroureter due to extrinsic fibrotic “pinching” at the level of the internal iliac vessels. Insertion of right ureter JJ stent revealed resistance at the site of compression. Laparoscopy showed a 7cm right ovarian endometrioma and deep endometriosis encasing the right pelvic ureter with right uterosacral and parametrial involvement. Right ovarian cystectomy was performed. Ureterolysis with cold scissors and preservation of the ureteral vascular sheath was performed. A plaque of parametrial endometriosis constricting the mid segment of the right ureter was excised. This was followed by by en-block excision of the torus uterinus, 2cm full thickness parametrial/right uterosacral endometriosis nodule, partial vaginectomy of the posterior fornix with shaving of rectal serosal endometriosis.

Conclusions

The urinary system is the second most common site of extrapelvic endometriosis. Ureteral endometriosis can be asymptomatic or have non-specific symptoms leading to loss of kidney function. Thorough urinary tract evaluation and multidisciplinary care prevents such catastrophic outcomes.

<https://player.vimeo.com/video/557347047?autoplay=1>

Surgical considerations in laparoscopic myomectomy for uterine myomas arising from the posterior uterine wall

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Background

This video highlights the surgical techniques used for laparoscopic myomectomy of low posterior uterine myomas. The techniques aim to reduce the risk of bleeding and injury to surrounding organs.

Methods

This was a planned laparoscopic myomectomy performed on a 45-year-old patient, who presented to the gynaecology department with pelvic pain and fibroids.

Results

Laparoscopy revealed a 6cm myoma arising from the lower posterior uterine body, growing into the left broad ligament and retroperitoneum. The surgery involved ovarian suspension, bilateral uterolysis, identification of left uterine artery, enucleation of fibroid and coagulation and separation of the fibroid's vascular attachments.

Conclusions

Laparoscopic removal of lower posterior uterine myomas presents different surgical challenges compared to myomas on the corpus, due to poor access to the operative field, distortion of retro-peritoneal anatomy and risk of injury to neighbouring structures including ureters, rectum and uterine arteries.

Retroperitoneal dissection may be necessary when dealing with lower posterior uterine myomas, to enable exposure of the ureters and free the fibroid. Surgeons must have a good knowledge of retroperitoneal anatomy to perform such dissections safely.

Correct separation of planes can minimise bleeding and risk of visceral injury during the enucleation of such fibroids. Tissue traction provided by uterine suspension aids in the identification of surgical planes and vascular attachments of the myoma.

<https://player.vimeo.com/video/559740780?autoplay=1>

Laparoscopic oophorectomy for 34 weeks size dermoid cyst: How we did it – tricks and tips!

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Background

A 32-year-old primiparous with four-month history of bloating, abdominal distention, and shortness of breath. On clinical examination she had a BMI of 38 with a large pelvic mass extending to the left hypochondrium. Ultrasound scan confirmed the presence of a left sided dermoid cyst measuring 20x19x12 cm. A decision was taken to perform diagnostic laparoscopy and, subsequently, proceed to laparoscopic oophorectomy of this large dermoid cyst. We describe the method used to undertake this uncomplicated operation.

Methods

Palmer's point entry into the abdomen under direct vision with a five mm, 30 degrees scope confirmed a large dermoid cyst extending to the left upper quadrant. Umbilical and lateral ports were sited under vision. Dermoid cyst gently punctured under direct vision with a 12mm umbilical, balloon port, and secured in place following inflation of port balloon. Following failure of ordinary laparoscopic suction due to thick sebaceous cyst contents. Most cyst contents were successfully removed using warm saline irrigation and suction technique using a number 16ch plastic bladder catheter and a 60 mls bladder syringe. This allowed draining two liters of sebaceous material. The warm saline facilitated thinning and dilution of the sebaceous material and the large bore catheter made the aspiration much easier and quicker. Following aspiration, cyst opening was secured using extracorporeal knot below the port edge to prevent spill of cyst contents. The remaining cyst contents were sucked from inside the port before deflating the port balloon to release the cyst. The port balloon was re-inflated. Oophorectomy with conservation of the tube was then performed. A large 15 cm Endocatch was then sited and the cyst placed within. The specimen was removed via a two cm extended sub umbilical incision. No spill of contents was noted throughout the procedure.

Results

Overall, this was an uncomplicated procedure and post operative recovery was uneventful. The patient was discharged home day one post operatively.

Conclusions

Following our initial experience of laparoscopic oophorectomy for the large dermoid cyst, we intend to use this technique in the future within our unit with the knowledge gained from this experience. Our experience shows that laparoscopic surgery may be performed for large dermoid cysts, avoiding the need for major abdominal surgery, reducing both intra operative and post operative complications and allowing for enhanced recovery post operatively.

<https://player.vimeo.com/video/557365868?autoplay=1>

**ES30-0405 -
Endometriosis**

Reducing the incidence of rectovaginal fistula, after segmental resection of bowel and concomitant vaginectomy or vault closure, for deep infiltrative endometriosis

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Background

Advanced endometriosis surgery involving either shave, disc or segmental resection of the bowel, especially when vaginal disease is also excised, is known to be complicated by rectovaginal fistula (RVF) during the healing process. The heterogeneity of location of disease and surgical approach makes it difficult to ascribe a true incidence of the problem, however large case series have shown this to be between 2 and 18% depending on location, size and technique of disease excised along with other co-morbidities

Methods

We present an edited video of the procedure undertaken at CEMIG, describing our approach (see below) to reduce fistula when doing concomitant bowel resection and either partial vaginectomy or hysterectomy where two hollow organs have been repaired next to each other.

In this video we are describing our techniques to reduce RVF including:

Approximation of the vaginal wall repair after vaginectomy (or vault closure at hysterectomy) laparoscopically then placing the knot inside the vagina, aiming to evert the raw edges of closure site into the vagina, to avoid approximation of the two wound edges reducing risk of fistula.

Vaginal suspension, before the anastomosis of the rectum, which would then allow the anastomosis line to be moved away from the vagina, aiming the circular stapler downwards to increase the distance between the two suture lines.

Trying to achieve excellent haemostasis, as we believe haematoma formation can increase fistula rates.

Avoiding the use of diathermy around the vagina and bowel as much as possible.

Placement of an omental patch between the two suture lines.

Results

Our patient went on to have an uneventful recovery

Conclusions

Undertaking these steps, which are based on good surgical principles should reduce the incidence of rectovaginal fistula in the healing process

<https://player.vimeo.com/video/558010503?autoplay=1>

**ES30-0410 -
Laparoscopic surgery**

Stripping of a large endometriotic ovarian cyst. Case-presentation of laparoscopic removal of 12 cm ovarian cyst of endometriosis

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Background

An 18 year old lady, fit and healthy, presented with a large ovarian cyst measuring 12 centimeters on MRI scan suggesting endometriosis without lymph nodes. All tumor markers were normal apart from CA125 which was raised mildly. She complained of lower abdomen pain, and bowel problems. She was virgin. She definitely desired and demanded laparoscopic removal of the ovarian cyst and not open surgery. She accepted the risks and she agreed to proceed with minimal access surgery

Methods

Veres needle was introduced for pneumoperitoneum and 3 trocars of 5mm were inserted as usual, We perform laparoscopy with a 10-mm, 0° telescope that provides good visualization of large ovarian cysts.

We choose stripping because a randomized trial comparing stripping versus fenestration and bipolar coagulation of the endometrioma wall has shown that stripping was superior in terms of symptom recurrence and subsequent fertility rate (Beretta *et al.*,1998).

After complete mobilization of the ovary from the ovarian fossa, the site of the initial endometrioma adhesion was fully exposed.

The stripping procedure was started at the site of endometrioma adhesion. At the end of the procedure the ovary was intact without any significant bleeding.

Results

The operation time from skin to skin was about 45 minutes. The recovery was without any complications. the video of the procedure is available for presentation. After 24 hours the patient was discharged and she was very happy.

Conclusions

MRI is very helpful in very large ovarian cysts especially made from endometriosis. MRI showed a 12 cm ovarian cyst with characteristics of endometriosis and without presence of lymph nodes. This information was very crucial in our decision to proceed with laparoscopy and to end up with a successful operation..

<https://player.vimeo.com/video/560817255?autoplay=1>

Severe endometriosis: 10 steps resection of peritoneal severe endometriosis and argon plasma coagulation on superficial lesions

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Background

Objective: to show surgical technique for deep endometriosis peritoneal resection with nerve sparing and argon plasma coagulation on superficial endometriosis. We will present a standardized 10 steps approach that can be replicated.

Patient: a 29 years old nulliparous woman with endometriosis stage III. In addition to chronic pelvic pain, dyspareunia, dysuria and dysmenorrhea, she was not able to get pregnant after one year. The MRI showed a 36 mm right endometrioma, we could also see a moderate fibrosis of the deep part of the uterine isthmus and the left utero-sacral ligament. To help the patient to get pregnant, it was decided a laparoscopic surgical approach in order to do maximum resection

Methods

Stepwise demonstration of the technique with narrated video footage approved by the local institutional review board. There was no conflict of interest

intervention step by step:

- 1: hysteroscopy in order to find a cause of infertility: no abnormalities were seen
- 2: laparoscopic set up (trocar placement done for pelvic surgery, uterine manipulator...) and exposure (Trendelenburg position and pushing aside the bowels)
- 3: tubal blue test looking for Fallopian tube dysfunction : right Fallopian tube obstructed
- 4: adhesiolysis of the left ovarian fossa and ovarian suspension with T-lift
- 5: left ovarian fossa superficial peritonectomy with removal of a left utero-sacral nodule with nerve sparing
- 6 : peritonectomy of the right ovarian fossa with excision of a deep nodule under the right ovary
- 7 : argon plasma coagulation on superficial lesions of the vesico-uterine peritoneum
- 8 : argon plasma coagulation of the right endometrioma
- 9 : argon plasma coagulation on superficial diaphragmatic lesions
- 10 : application of powder for adhesion prevention

Results

Post-operative days were free of any complications; the patient left the hospital the day after intervention.

EFI score 7, with a 20% chance of pregnancy in 6 months

Conclusions

Experience in endometriosis surgery is needed to perform the surgery without complication and nerves sparing.

<https://player.vimeo.com/video/560604139?autoplay=1>

Single port ovarian cystectomy; demonstration of a single access technique in a case dermoid cyst with tips and tricks

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Background

Single access surgery offers better cosmetic results than multiport surgery. It is feasible and safe with comparative outcomes. However the uptake of this technique is variable. In adnexal surgery the umbilicus offers an efficient route of retrieval and removal of specimens. This is a case of laparoscopic ovarian cystectomy performed via single port surgery elaborating the perioperative care and demonstrating technique.

Methods

This is a case of 24 year old who had 9 cm persistent cyst between repeated scans following a termination of pregnancy. Her Ca125 was normal and her case was discussed in multidisciplinary meeting and was consented for ovarian cystectomy via single access approach. Under general anaesthesia the bladder was emptied and simple uterine manipulator was used. The umbilicus was incised 2.5cm vertical wound followed by direct access to the peritoneum through an extended 3.5cm incision. The edges of the rectus sheath were stabilised with Vicryl stay suture preserving the position of the umbilicus to later aid correct closure and reconstruction. Local anaesthetic (Chirocaine) was injected circumferentially into the deep layers of the umbilical wound. Alexis retractor was applied and then a prepared GelPOINT advanced surgical platform was put over the exterior ring. Pneumoperitoneum was set at 8mmHg and exaggerated head down around 15 degree. The dermoid cyst was positioned on the top of the uterus to stabilise its position for cystectomy. The cyst was enucleated from the ovary using standard laparoscopic instruments and retrieved in a bag using the scooping manoeuvre and removed through the umbilicus without any spillage. Local anaesthetic was left in the peritoneal cavity after deflation and then the rectus sheath was closed with J needle Vicryl double layer and skin by interrupted Vicryl rapide.

Results

The procedure took 30 minutes from skin incision to closure. The patient reported minimal discomfort at the umbilical area and was discharged home within 4 hours. Later follow up indicated normal wound healing and she expressed satisfaction with the cosmetic result. Histology proved benign pathology.

Conclusions

This case demonstrated the efficacy of the technique in adnexal pathology. The enhanced umbilical wound allowed efficient retrieval of the specimen with better cosmetic results than an extended lateral or suprapubic port wound. Additional ports means additional risk and potentially increased risk of abdominal wall vascular and neural injuries. The technique requires additional training and expertise particularly in eye hand coordination and instruments triangulation, however it was achieved using the routine laparoscopic instruments. Careful patient selection is strongly recommended. This technique extends the benefits of the minimal access surgery further with may be better enhanced recovery by having only one wound at the natural scar of the umbilicus but it is not uniformly available globally. It is known to be technically demanding surgically but enhances patient satisfaction.

**ES30-0423 -
Laparoscopic surgery**

Total hysterectomy with bilateral salpingectomy by robotic vaginal laparoscopy

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Background

The goal of this video is to demonstrate our technique for robotic vaginal total hysterectomy.

The motivations behind this procedure were first to perform scarless robotic surgery, and secondly to improve the ergonomics of vaginal NOTES (natural orifice transluminal endoscopic surgery).

Methods

Pericervical hydrodissection, circumcision of the cervix, opening of Douglas's pouch and anterior peritoneum, as well as section of sacro-uterine ligaments were performed by classical vaginal surgery technique. We used Applied Medical's GelPoint® as NOTES port, allowing to create pneumoperitoneum. Three 8 mm Da Vinci's Xi trocars were positioned in the GelPoint® sleeves, as well as a 5 mm operating aid trocar. Hysterectomy was then performed using the robotic arms. In this video, we perform bilateral salpingectomy as well.

Results

We didn't experience any perioperative complication among the first 5 patients who benefited this surgery. Post operative pain after 2 hours was close to nil. Our installation didn't suffer major ergonomic issues after optimal placement of trocars and use of a 30 degrees camera. Pros of robotic vaginal NOTES hysterectomy include 3D vision (finer control of dissection and hemostasis), easier salpingectomy and adnexectomy, and easier procedures in case of large uterus. Cons include longer operating times, even though the learning curve seems fast and total surgery quickly lasts less than an hour, and of course larger costs due to the use of the robot.

Conclusions

Robotic vaginal total hysterectomy is a viable technique for miniinvasive hysterectomy.

<https://player.vimeo.com/video/561890703?autoplay=1>

**ES30-0433 -
Hysteroscopic Surgery**

Hysteroscopy myomectomy to type submucous myomas

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Background

To analyze the security and feasibility of Hysteroscopy myomectomy to type II submucous myomas with large size

Methods

The clinical data of hysteroscopic myomectomy for type II submucous myomas with large size (tumors diameter > 4 cm) in ChangZhou Maternal and Child Care Service Center were analyzed retrospectively

Results

All the patients underwent hysteroscopy myomectomy to type II submucous myomas, none of them underwent laparoscopic myomectomy, and none of them had serious complications such as uterine perforation, intraoperative massive hemorrhage and intestinal heat injury.

Conclusions

Hysteroscopic myomectomy for type II submucous myomas is a safe, effective and minimally invasive surgical treatment. For type II submucous myomas with large size, hysteroscopy electrotony is still an option. However, in order to reduce the occurrence of complications and make the operation safer and more effective, patients should be selected reasonably before the operation, adequate surgical evaluation and communication before the operation should be carried out, and the procedure should be standardized. Surgery should be performed by experienced and qualified doctors, and the success rate of one operation should not be pursued blindly.

<https://player.vimeo.com/video/564532809?autoplay=1>

BEST EPOSTER

ES30-0008 - P*001

Best E-Poster

Adjunct treatment required following laparoscopic excision of superficial endometriosis in a tertiary endometriosis unit. A retrospective review

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Background

Superficial forms of endometriosis appear to be the most common manifestations, however, there is limited data analysing the post-operative outcomes for such cases.

This review aims to consider the effectiveness of laparoscopic excision of superficial peritoneal endometriosis by reviewing the post-operative adjunct therapies required and average time to discharge.

Methods

A retrospective review of 90 women who underwent laparoscopic excision of superficial peritoneal endometriosis at University of North Midlands Hospital between July 2017 to July 2019. A literature search was then carried out to find comparable current evidence.

Results

Following excision of superficial endometriosis 57.8% went on to require further medical treatment with the majority of requiring gonadotrophin analogues (32.2%). Mean time to discharge was 5.6 months. 49 (54.5%) of patients were discharged following the laparoscopic excision, 11 patients (22.4%) of those were re-referred to the service.

Conclusions

Laparoscopy and excision of endometriosis is a vital element in the treatment of endometriosis; however, the question is raised regarding whether the benefit justifies the surgical risks when considering superficial endometriosis.

This review found that following laparoscopic excision of superficial peritoneal endometriosis less than half of patients did not require any further treatment which may indicate that surgical excision is not the optimum management option. This finding is in-keeping with current data, however, the data available is limited.

Overall, the results have highlighted the need for further research into laparoscopic excision of superficial endometriosis and its effectiveness in comparison with other medical options, particularly when considering the associated surgical risks.

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SHARP risk score: a predictor of poor outcomes in adults admitted for emergency general surgery; a prospective cohort study

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Background

Post-operative complications following emergency abdominal surgery are associated with significant morbidity and mortality. Despite the knowledge of prognostic factors associated with poor surgical outcomes; few have described risks of poor outcomes based on admission information in the acute surgical setting. We aimed to derive a simple, point-of-care risk scale that predicts adults at an increased risk of poor outcomes.

Methods

We used data from an international multi-center prospective cohort study, the Older Persons Surgical Outcomes Collaboration (www.OPSC.eu). The effect of characteristics; age, hypalbuminaemia, anemia, renal insufficiency, and polypharmacy on 90-day mortality was examined using fully adjusted multivariable models. For our secondary outcome, we aimed to test whether these characteristics could be combined to predict poor outcomes in adults undergoing emergency general surgery. Subsequently, the impact of an incremental increase in derived SHARP score on outcomes was assessed.

Results

The cohort consisted of 419 adult patients between the ages of 16 to 94 years (men 48.7%; Q1(36), Q2(55), Q3(75); IQR(39) consecutively admitted to five emergency general surgical units across the United Kingdom and one in Ghent, Belgium, during 2015 and 2016 audit cycles. In fully adjusted models the characteristics; Sixty-five years or over (OR 4.32 (95%CI:1.42-13.11); $p < 0.010$), Hypoalbuminemia (< 3.5) (4.60(1.39 TO 15.30); $p = 0.013$), Anaemia (≤ 12.9) (4.60 (1.39-15.30); $p = 0.013$), Renal impairment (eGFR < 60) (4.55 (1.61-12.87); $p < 0.001$) and Polypharmacy (≥ 5) (3.53 (2.20-5.68); $p < 0.001$) were associated with 90-day mortality. Together these characteristics were combined to form the SHARP risk score; SHARP score of four or more was associated with higher odds of mortality in adults who underwent emergency general surgery, with a SHARP score of five being associated with 90-day mortality (57.9(4.29 to 534.36); $p = 0.002$) and increased length of hospital stay, of more than five days (24.91(4.96 to 124.99); $p < 0.001$).

Conclusions

SHARP risk score is a simple prognostic tool, using point-of-care information to predict poor outcomes in patients undergoing emergency general surgery. This information may be used to improve management plans and aid clinicians in delivering more person-centered care. Further validation studies are required to prove its utility.

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The impact of hysteroscopy on prognosis of early-stage endometrial cancer

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Background

Hysteroscopy is often used for endometrium assessment in cases of abnormal uterine bleeding. However, concerns have been raised regarding the possible spread of malignant cells into the abdominal cavity in cases of endometrial cancer, which could potentially worsen the prognosis of these patients. We aimed to assess whether hysteroscopy prior to surgery affected prognosis of patients with early-stage endometrial cancer.

Methods

Medical records of all women who underwent surgical treatment for endometrial cancer in our institution between 2010 and 2018 were reviewed. Women with FIGO stage IV tumors were excluded. Data concerning demographic characteristic, diagnostic procedure, surgical intervention, histological reports, recurrence and survival were retrieved. Patients were classified in two groups: hysteroscopy and non-hysteroscopy. Kaplan-Meier and Cox-regression models were used to compare survival between groups.

Results

In total 259 patients were included, 64 (24,7%) of which were diagnosed with hysteroscopy and 195 (75,3%) with office endometrial biopsy. No differences between the two groups were observed concerning age, body mass index (BMI), histological type or tumor-stage. Mean follow-up time after surgery was 41 months (SD 26,3). Recurrence occurred in 7 patients in the hysteroscopy group (10,9%) and 39 patients in the non-hysteroscopy group (20%). No differences between the two groups were observed regarding mean progression-free survival (PFS; 79,2 vs. 88,6 months, $p=0,076$), disease-specific survival (DSS; 96,5 vs. 91 months, $p=0,138$) and overall survival (OS; 81,9 vs. 81,7 months, $p=0,476$). Adjusting the analyses for age and tumor-type had no impact on the results.

Conclusions

The results of this study suggest that hysteroscopy had no impact on recurrence or survival of patients with early-stage endometrial cancer and is a safe method for diagnosis in these patients.

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The value of laparoscopic Wertheim-Meigs-Surgery in early-stage cervical cancer – a retrospective analysis

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Background

Globally, cervical cancer is the fourth most common gynaecological cancer and the eighth most commonly occurring cancer overall. For cervical cancer, radical hysterectomy with pelvic lymphadenectomy and removal of the parametrial tissues, also known as Wertheim-Meigs-Surgery is one of the recommended treatments. Nowadays, a laparoscopic approach has become a common method. Many previous studies have proven the safety of laparoscopic surgery as a minimally invasive option to laparotomy. Nevertheless, recent studies demonstrating shorter survival among cervical cancer patients undergoing minimally invasive versus open radical hysterectomy demand more data to investigate the safety and efficacy of laparoscopic radical hysterectomy in managing early-stage cervical cancer. This study aims to demonstrate the survival rate of patients with early FIGO stage cervical cancer (FIGO IB1) who underwent laparoscopic radical hysterectomy.

Methods

The data of 145 patients with histologically confirmed cervical cancer who underwent laparoscopic radical hysterectomy from 2010 to 2019 were included in this study. From these patients detects our study those with early cervical cancer smaller than 2 centimeters, corresponding to the FIGO classification as at most IB1 (51 patients). For the statistical analysis SPSS version 25 was used. Kaplan-Meier curve was used to calculate survival.

Results

In this collective, there are 36 patients with squamous cell carcinoma, 14 patients with adenocarcinoma and 1 patient who had both histological types. At the time of the analysis (January 2021), 48 of 51 patients were alive, 3 of 51 had died, which gives a survival rate of 94,1%. Furthermore, 3 patients out of 51 had a local recurrence, which sums up to a recurrence rate of 5,9%. Two of these patients had a recurrence in the vaginal stump and one in the pelvic lymph node tissue. 40 of 51 patients did not receive an adjuvant therapy. Only one of those who did not undergo an adjuvant therapy had died. 11 of 51 patients had an adjuvant therapy; 4 of them received only radiation, 7 patients underwent concurrent radiochemotherapy.

Conclusions

This retrospective analysis suggests that minimally invasive surgery is a sufficiently safe form of therapy in cases of cervical cancer smaller than two centimeters. As there has been much controverse discussion in recent studies, further studies and analyses will be needed in the future to come to definite conclusions in choosing the best form of treatment with the best chances of survival and disease-free survival in early cervical cancer. Until then, for each patient, risks and benefits should be evaluated to find the most fitting operative therapy in order to reach the longest survival combined with the highest possible quality of life.

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Uterine cervical diverticulum presenting as repeated hematometra refractory to treatment in a 26 year old nulligravida: a case report

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Background

Uterine diverticulum is a rare malformation. Pathogenesis is considered to be a partial duplication of the Mullerian duct or a localized failure of fusion which may create a vulnerable site in the uterine wall. It could be localized in relation to the uterine fundus, segment, isthmus and cervix. As far as we know, only 9 cases have been reported in the literature with varying clinical presentations such as primary infertility, abdominal pain, abnormal uterine bleeding, dysmenorrhea and gynaecological sepsis. We present a challenging case of uterine cervical diverticulum.

Case: a 26-year-old nulligravida, with diagnosis of primary dysmenorrhea, without previous surgeries presented twice in less than 6 months to the emergency department with severe abdominopelvic pain. In both opportunities a bicornuate uterus with intrauterine collection suggestive of hematometra was suspected requiring emergency uterine aspiration and curettage. After the first episode she was using continuous oral contraceptives (COC). Pathology informed mucus and endocervical epithelium without morphologic alterations for both specimens.

Further study with pelvic magnetic resonance (MRI) informed presence of an 8 cm parauterine ovoid lesion with an internal cavity communicated with endometrial and endocervical canal and a left uterus with normal configuration.

Methods

The patient was scheduled for a double approach endoscopic surgery. Initially, hysteroscopy showed an abnormal cavity with pale glandular lining and muco-hematic adherent content. Another cavity lateralized to the left was identified and explored demonstrating a normal distensible endometrial cavity and both ostia, suggestive of a normal uterine cavity. Through laparoscopic access the presence of normal uterus and adnexa was confirmed, and a 6 cm bilobulated retrouterine tumor lateralized to the right was identified. The tumor was resected with monopolar hook showing an internal cavity with glandular tissue and extremely dense muco-hematic content. Once resected, the 1.5 cm remaining defect was repaired with double layer closure. Blue dye test showed permeability of both fallopian tubes, without leakage through the posterior wall suture. Pathology informed tissue constituted of endocervical stroma and endocervical epithelium without morphologic alterations, compatible with uterine cervical diverticula.

Results

The patient was discharged uneventfully. At 7 month follow up she was asymptomatic using COC and ultrasound checkups showed no new intrauterine collections.

Conclusions

Uterine diverticula is a rare entity that may present in variate forms, one of them abdominal pain, and may be confused with hematometra in ultrasound, scanner and MRI. This case report shows that it is a condition not only exclusive for multiparous women, or secondary to other scar defects, so in nulliparous women it should be ruled out whenever usual treatment fails to succeed for its multiple differential diagnoses. Once confirmed, it may be successfully treated through laparoscopy, alleviating symptoms and preserving future fertility.

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The use of hysteroscopic metroplasty with diode laser to increase endometrial volume in women with septate uterus: preliminary results

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Background

The aim of our study was to assess the feasibility, safety and efficacy of office hysteroscopic metroplasty using a dual-wavelength (980nm and 1470nm) diode laser system and to evaluate with 3D ultrasound endometrial volume before and after procedure in women with septate uterus (class U2A)

Methods

We enrolled 6 consecutive patients with septate uterus who were scheduled for office hysteroscopic metroplasty with diode laser between February 2019 and November 2019 in University of Foggia and Cagliari. Endometrial volume was evaluated before and 3 months after surgery using 3D transvaginal ultrasound. The surgical procedure was uncomplicated in all patients and was performed with 4mm hysteroscope (Bettocchi Office Hysteroscope, Karl Storz, Tuttlingen, Germany) with vaginoscopic approach in an office setting, with no anesthesia nor sedation.

We used a new Dual wavelengths Laser System (Leonardo® Dual 45, Biolitec, Germany). This laser is characterized by combination of two wavelengths (980 nm and 1470 nm), giving contemporary capacity of cutting and vaporization.

A second hysteroscopic look to evaluate residual septa or the presence of adhesions was performed after three months. Additionally, in order to assess the uterine morphology and measure the endometrial volume after the procedure, 3D TV-US was performed in luteal phase, one week after ovulation in a controlled spontaneous menstrual cycle (after at least two regular spontaneous menstrual cycle).

Results

The surgical procedure consisted in the complete vaporization and removal of the septum starting from the apex. Patients were all discharged a few hours after the procedure with no early complications.

Median endometrial volume was significantly lower preoperatively 4.4 (range 2.5-5.5) versus 6.5 (range 4.4-7.6) cm³ post surgery, p: 0.019 and the median increase before and after surgery was 1.9 cm³ (range 1.7-2.1) At the moment of the current study, a 12 months follow up has been performed in all the patients. None of the patients have reported any adverse effect and one patient has had a spontaneous pregnancy with vaginal uncomplicated delivery.

Conclusions

Office hysteroscopic metroplasty with diode laser is a safe procedure and has preliminary showed to increase endometrial volume. The increase in endometrial volume by 3D-TV US could be used as a prognostic factor for the reproductive outcomes.

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Laparoscopic surgery of monolateral endometrioma using a new dual wavelengths laser system (DWLS) for hemostasis: our experience

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Background

The aim of the study was to evaluate the impact on ovarian reserve by dosing the anti-Mullerian hormone (AMH) using the stripping technique followed by the hemostasis with dual wavelengths laser system (DWLS)

Methods

We enrolled 48 patients scheduled for surgery for symptomatic unilateral endometrioma, greater than 35 mm. Patients were recruited between December 2018 and January 2020 in University of Foggia and Cagliari. Patients with previous gynaecological surgery, hormone therapy 3-6 months before surgery or BMI>30kg/m² were excluded. Laparoscopic excision of endometriomas were performed with the combined technique of stripping followed by hemostasis of residual ovarian tissue using. The surgical procedure was uncomplicated in all patients. The endometrioma was excised following the conventional stripping technique. The hemostasis of residual ovarian tissue was performed using the DWLS, with a conic fiber of 1000 micron (Biolitec Ceralas HPD, wavelength of 980 nm and 1470 nm). This laser is characterized by combination of two wavelengths (980 nm and 1470 nm), giving contemporary capacity of cutting and vaporization. AMH serum levels was assayed before the surgery (baseline), 4-6 weeks (T1) and 6-9 months (T2) after the surgery and compared using paired samples t-test and Wilcoxon signed-rank test.

Results

In patient with higher AMH level at baseline (≥ 3 ng/ml) we found a lower AMH levels than baseline in both T1 and T2 times, even if AMH levels seemed to increase in T2 group rather than T1 group and this difference was statistically significant ($p < 0.0001$). The mean serum AMH after surgery corresponded to 93.6% of baseline levels. In patients with a low AMH levels at baseline (< 2 ng/ml), the AMH levels lowered in T1 to T2 to 87.0% of the mean baseline value.

Conclusions

Even if surgery could damage ovarian reserve, our study showed how an appropriate surgical technique (combined stripping and ablation) with the use of laser hemostasis does not determine a significant reduction of ovarian reserve, in particular it seemed to allow partial recovery toward baseline of serum AMH.

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Endometrial ablation with LiNA librata performed by a nurse consultant

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Background

To evaluate the effectiveness of the LiNA Librata® endometrial ablation device and the feasibility of appropriately trained nurse hysteroscopists performing the procedure.

Methods

Retrospective evaluation of 22 patients with LiNA Librata® endometrial ablation. All patients were treated by a qualified nurse hysteroscopist with training in endometrial ablation. The procedure was performed in accordance with local and national clinical guidelines. The nurse consultant performed 380 Novasure® procedures from 2006 to 2018 and recently introduced endometrial ablation with LiNA Librata®. Eighteen Librata® procedures were performed in an outpatient setting, 4 procedures were performed under general anaesthesia in the day surgical unit. All patients suffered from menorrhagia for benign reasons and were unresponsive to medical therapy. Endometrial thinning was not performed. In the outpatient setting a pre-procedure regime of diclofenac 100mg per rectal, paracetamol 1g oral, diazepam 5mg oral and cyclizine 50mg oral was given one hour preoperatively. If cervical dilation was required a cervical block was performed. The patients were followed up via telephone consultation 3 months post-ablation.

Results

The median age of the study group was 46 years (range 38 - 55). 21/22 procedures were completed, in 1 case the procedure was aborted by the device. Follow up data are available for 12 patients. All patients reported reduced menstrual blood loss (12/12) including 42% with amenorrhoea (5/12). No patients required further surgical treatment. In 3 of the 18 outpatient procedures local anaesthetics and cervical dilatation was not required. All patients in the outpatient group tolerated the procedure with none being abandoned due to discomfort. There were no adverse patient consequences due to the procedures.

Conclusions

The LiNA Librata® endometrial ablation device is an effective treatment for abnormal uterine bleeding and can successfully be performed by appropriately trained nurse hysteroscopists.

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Outpatient Hysteroscopy at a busy District General Hospital - a service with room for efficiency

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Background

RCOG recommends hysteroscopy to be performed in an outpatient setting as a routine, safe, cost-effective, well tolerated and highly successful procedure. To avoid financial repercussions, our department must ensure national waiting list targets are met for both cancer and non cancer referrals. Multifactorial demands on hysteroscopy clinic are increasing with a simultaneous reduction in appointment availability caused by COVID pandemic regulations on top of pre-pandemic pressures. Thus inefficiencies in the appointment system at this critical time could result in financial implications as well as decreased patient satisfaction, an integral part of modern healthcare.

We aimed to review the hysteroscopy practice at our unit in order to assess efficiency of the service compared to that in the literature and to identify key areas for improvement.

Methods

We retrospectively evaluated 2 months of hysteroscopy clinics during February and March 2021 assessing for rate of:

Diagnostic, operative, and failed hysteroscopies

Referral for General anaesthetic (GA) hysteroscopy

Underutilised appointments

Results

Our unit runs 9 consultant led hysteroscopy clinics per week with a capacity for 6-8 appointments each. Table 1 illustrates the breakdown of appointment utilisation during the study period.

Table 1: 440 Hysteroscopy appointments in 2 months		
	n	%
UTILISED APPOINTMENT		
DIAGNOSTIC	213	48.4%
POLYPECTOMY	54	12.3%
FAILED	31	7.0%
Total	298	67.7%
UNDERUTILISED APPOINTMENT		
DNA	56	12.7%
NOT INDICATED	53	12.0%
DECLINED	15	3.4%
DEFERRED	12	2.7%
TELEPHONE	4	0.9%
Total	140	31.8%
UNCLEAR DOCUMENTATION	2	0.5%

Reasons for failed hysteroscopy were: pain, poor views, stenosis, unable to visualise cervix.

Reasons for not indicated were: endometrial thickness (ET) <4mm on scan, vulval symptoms, hysterectomy.

Reasons for declined and deferred on the day were: anxiety, not stopped clopidogrel, on period, no hysteroscope available, no scan, not suitable.

Of the utilised appointments 15.8% (47) required a subsequent GA hysteroscopy:

77.4% (24) of the failed hysteroscopies,

9.9% (21) of the diagnostic hysteroscopies for an unattempted polypectomy or fibroid resection,

3.7% (2) after an incomplete polypectomy.

Of the underutilised appointments 5% required a subsequent GA either due to patient declining or patient not suitable for OPH.

All DNAs were offered a subsequent appointment.

Conclusions

67.7% of appointments had an attempted hysteroscopy, the majority were diagnostic (71.5%) with some operative (18.1%) and failed (10.4%). We had a success rate of 84%, in keeping with the variable success rates of OPH in the literature, and a GA rate of 16% in all attempted hysteroscopies. There is yet to be consensus on factors that affect failure rate of OPH.

31.8% of hysteroscopy appointments were not utilised for a variety of reasons, the majority of which can be addressed. There was a GA rate of 5% in underutilised slots.

To reduce the underutilisation of hysteroscopy appointments we recommend the following:

GP to indicate the following on the referral: ability to tolerate speculum, taking anticoagulants/ antiplatelet, preference for female gynaecologist, date of next period.

Sonographer to urgently flag if woman is unable to tolerate transvaginal probe or ET <4mm for review before hysteroscopy appointment.

Administrators to avoid booking telephone appointments in hysteroscopy clinic and to send appointment reminders to reduce DNAs.

Gynaecologist to vet out referrals for hysterectomy patients and vulval symptoms.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/6613/cmabstsms/0000174440/8793bb0d81f2aa5176797a835065fd2c3f64c7ed167eff5976b51debb458f8a6>

Laparoscopic procedure for chronic pelvic pain: a review of clinical presentations, management and outcome

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Background

Chronic pelvic pain is a debilitating condition and one of the most frequent indication for gynaecological referral to secondary care. careful systematic analysis of women's history, examination and relevant investigations will frequently reveal the cause of pelvic pain. our study aims to assess the clinical presentation, intra-operative findings and outcome of patients undergoing laparoscopic surgery for chronic pelvic pain.

Methods

Retrospective review of elective laparoscopic cases performed to investigate and manage chronic pelvic pain at Basingstoke, District General Hospital during 2019. Data was collected from Electronic patient records (EPR) and operative notes.

Results

One hundred and five patients from January 2019 to December 2019, with chronic pelvic pain, underwent elective laparoscopic surgery. Age ranged between 18 and 50 years with mean age of 34.2. About 27% (n=28) were obese with 34% (n=36) being overweight. Among those 18.1% (n=19) had laparotomy and 39.04% (n=41) had laparoscopic surgeries in the past. In addition to pelvic pain, 27.62% (n=29) had bowel symptoms, where as 28.57% (n=30) had urinary symptoms.

With regards to surgical procedure, 65.72% (n=69) and 34.28% (n=36) of the patients underwent laparoscopy with 3mm and 5mm ports respectively. Average operative time was 87.59 minutes (range 16-375 minutes). Blood loss was minimal in most of the cases (range 0-200 ml). Cystoscopy was performed in 17.4% of cases (n=18) to investigate urinary symptoms. Endometriosis was diagnosed in 65.71% (n=69) of the patients [stage I -II -37.14% (39/105), stage III - 13.33% (14/105), stage IV - 15.24% (16/105)]. Other pathologies were identified in 27.7% (n=25) of cases such as obstructive defecation (6/105), IBS (4/105), diverticulosis (1/105), interstitial cystitis (8/105), follicular cystitis (1/105), pelvic congestion syndrome (2/105) and suspected adenomyosis (5/105). Mirena (LNG-IUS) was inserted in 31.43% (n=33). The cumulative incidence of intraoperative complication (obturator artery injury: 1) was 0.95%.

Follow-up after 3 months revealed that 24.76% (n=26) were pain free, 36.19% (n=38) had improvement in their pain score. However, 27.62% (n=29) of patients had persistent symptoms. Around 12% of the patients lost follow-up.

Conclusions

Chronic pelvic pain is a devastating condition which significant burden on overall quality of life. Laparoscopy is a safe and effective tool in diagnosis and management of most patients with pelvic pain. Endometriosis is one of the most common structural causes of chronic pelvic pain in reproductive age group. Systematic approach during laparoscopy is the key to find out the cause for pelvic pain.

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Laparoscopic management of a full-thickness uterine niche with subsequent pregnancy outcome

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Background

Uterine niche, also known as isthmocele or caesarean scar defect, is the consequence of impaired healing of the myometrium following a lower segment transverse caesarean section. While the vast majority of women with uterine niche remains asymptomatic, a minority could experience abnormal uterine bleeding, secondary infertility and abdominal pain. Although there is conflicting evidence on the management of these cases, laparoscopic repair is a commonly used surgical treatment modality. We aimed to discuss the decision-making process relating to the indications for performing a surgical repair of niche; pre-op planning with ultrasonographic and magnetic resonance imaging prior to surgery; techniques in laparoscopy including dissection and identification of the uterine niche, resection of the fibrotic edge of the niche and suturing technique to close the defect.

Methods

We report a case of a 33-year-old patient with a previous caesarean section who presented with severe abdominal pain 2 weeks following a subsequent vaginal delivery. The severe pain subsided initially with conservative measures but she presented again at 6 weeks with continuous mild abdominal pain and vaginal bleeding. Then a significant haematoma was identified in the caesarean scar defect. This was initially managed conservatively, however she continued to have irregular vaginal bleeding with postmenstrual discharge. Thus, she was offered the option of laparoscopic repair. The surgical steps discussed including the dissection of the uterovesical fold overlying the uterine niche, followed by excision of the uterine defect and its repair with laparoscopic suturing. Magnetic resonance imaging and ultrasound images of the uterus demonstrating the haematoma at caesarean section site and the niche after resolution of the haematoma are also provided. Our main outcome measures involved repair of the defect, symptomatic relief of abnormal uterine bleeding, spontaneous conception and live birth.

Results

Recovery was uneventful following the surgery. Integrity of myometrium confirmed with post-operative imaging and at the subsequent caesarean section. Gynaecological symptoms resolved following the repair. The patient conceived spontaneously within a year after surgery and delivered at term by caesarean section without any complications.

Conclusions

This was an interesting case where the symptoms of uterine niche presented after a vaginal delivery. The repair of uterine niche was successful as demonstrated by ultrasonographic measurements of uterine wall thickness, symptom relief and a good pregnancy outcome. Laparoscopic management of uterine niche should be considered where there is a complete myometrial defect or substantial thinning of the myometrium, especially in symptomatic women who desire future pregnancy.

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Endometrial ablation in women with adenomyosis; should it be avoided? A case of post-ablation syndrome (PAS)

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Background

Endometrial ablation (EA) procedures are widely used as a safe, effective and minimally invasive treatment option for premenopausal women with menorrhagia. One rare but recognised complication with this is post-ablation syndrome (PAS), which has an incidence of 1-3%. PAS features delayed onset cyclical pelvic pain, haematometra and intrauterine scarring with or without cervical stenosis. Patients with adenomyosis are at increased risk of failure of ablative techniques and for developing new or worsening pain post-ablation. Studies have shown that adenomyosis significantly increases the risk of requiring a subsequent hysterectomy post-ablation.

Methods

A para 2, 45-year-old lady presented with persistent menorrhagia, without dysmenorrhoea. She underwent a hysteroscopy and NovaSure bipolar radiofrequency endometrial ablation (NovaSure EA; Hologic Inc., Bedford, MA) and was initially discharged with good outcome. She re-presented 12 months later with symptoms of persistent episodic right groin pain. Multiple imaging techniques including transvaginal scan (TVS) and computed tomography (CT) revealed fluid within the uterine cavity and a persistent hydrosalpinx despite antibiotic treatment during multiple hospital admissions.

At initial laparoscopic bilateral salpingectomy she was found to have a stenosed cervix, deep infiltrative endometriosis, bowel adhesions and confirmed adenomyosis. In 2018, a hysteroscopic division of cervical and intrauterine adhesions, insertion of levonorgestrel intrauterine system as well as a right oophorectomy was performed. The patient still reported cyclical abdominal pain and after counselling and exploring her options which included expectant management versus hysterectomy, she opted for the latter. In view of the presence of a complex ovarian cyst, robotic assisted total laparoscopic hysterectomy and unilateral oophorectomy was performed which led to resolution of her symptoms. Histopathology confirmed adenomyosis and a benign left ovary.

Results

PAS occurs as a result of persistent uterine bleeding in conjunction with intrauterine scarring and contracture. This occurs as a by-product of healing after thermal destruction of the endometrium.

Persistent uterine bleeding may be secondary to incomplete endometrial destruction at the time of ablation, endometrial regrowth, adenomyosis, fibroids, polyps, ablative necrosis or even the development of uterine malignancy. If scarring obstructs the outflow of uterine blood at the internal os or tubal ostia, this can give rise to PAS and cyclical pelvic pain. Literature suggests that adenomyosis may contribute to a higher rate of failures post EA. Review of the literature revealed that adenomyosis was present in up to 45% of women undergoing hysterectomy after EA.

Conclusions

In women with adenomyosis, endometrial ablation should be avoided due to the association with PAS. Further studies are required to robustly investigate this link. Endometrial ablation should be carefully considered by clinicians when assessing the most appropriate management options for a patient with menorrhagia and adenomyosis.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/5550/cmabstms/0000186810/0462baffccd0d76a0d16ff527d020640cb69a7d3d913bfe8a83bb77ba08b4028>

COVID-19's impact upon primary operating numbers in Australia & New Zealand and its' implications for obtaining surgical competency

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Background

The challenge for gynaecology trainees world-wide is to obtain primary operating experience to facilitate skill acquisition, refinement and eventually operative competency. The international COVID-19 pandemic has impacted elective gynaecological operating globally to differing levels along with the obvious health and economic impacts of the pandemic itself. Australia, which has been largely spared from the health impacts of the COVID-19 pandemic, none the less saw a large number of operative opportunities disappear for trainees. This study sought to assess operative numbers 2017-2020 to determine the impact of COVID-19 on gynaecology trainees operative numbers and what this may mean for their surgical competency.

Methods

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists publishes operative numbers by training state, integrated training program (hospital based training group) and individual hospital site per 6 month period. These were analysed across a 4 year period and assessed for significance and to allow calculation of impacts upon training time and operative numbers.

Results

2017-2019 the average number of primary operator major gynaecological procedures per trainee at 17.1/year. In 2020 the average reduced to 14.3/year. The yearly averages were 14.4/year, 19.2/year, 31.0/year for the 2017-2019 period respectively. Operating numbers across some states increased in the second half of 2020 with Western Australia, South Australia/Northern Territory, Tasmania and Queensland all increasing their operating numbers, the remaining states and New Zealand saw further reductions in their operating numbers per trainee.

	WA	SA/NT	Tas	QLD	NSW/ACT	VIC	NZ
2017	17.5	17.8	12.75	13	11.6	10.95	17.25
2018	26.55	25	17.9	17.35	17.7	16.1	13.75
2019	26.35	21.55	18.65	16.3	16.25	14.35	10.45
2020	22.25	12.8	13.1	15.55	14.85	12.1	9.35

Conclusions

COVID-19 despite only limited outbreaks within Australia and New Zealand resulted in a halving of primary operator major gynaecological surgeries per trainee compared to 2019. Despite most states and territories lifting restrictions on elective surgery in the latter half of the year (and in some cases increasing elective surgery funding) there was an ongoing reduction in primary operating in some states. When considering many states average 12-15 major/trainee/6 month period, this equates to a loss of training of 6 months for many trainees. The future workforce implications of this and capability to facilitate trainee skill acquisition and competency despite this remains unclear.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/5552/cmabstms/0000158810/ed e53c91e99261d9e54cf153c277a317d589aa6e6c0f61125e3de5e3a60ae12c>

Implementation of robotic gynaecological surgery in a German Academic Teaching Hospital

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Background

To analyse feasibility and safety implementing robotic assisted gynaecological surgery (RAS) using Da Vinci Xi[®] system for various indications in a German Academic Teaching Hospital, to systematically review patient's safety using standardized Clavien-Dindo (CD) classification of surgical complications, and to compare RAS with pre-robotic conventional laparoscopic surgery (MIS) for TLH subgroup.

Methods

Single-centre comparative cohort study in German Academic Teaching Hospital setting, certified laparoscopic and robotic surgeon. Consecutive data of gynaecological RAS between 5/2020 and 3/2021 for a variety of indications and pre-robotic MIS TLH from 11/19 analysed; dual Console Da Vinci Xi[®] system of Intuitive Surgical[®] with a triple port approach were used. Data of peri-, postoperative outcomes, CD classified surgical complications. Subgroup analysis performed for consecutive RAS TLH, compared to pre-robotic MIS TLH. Telephone interviews for complications and re-admissions at 16 ± 9 weeks.

Results

N=110 data sets included: n=65 consecutive RAS operations for benign or (pre)malignant (22%) indications. Total RAS cohort: age 54 ± 13 y, BMI 30 ± 6 kg/m², 51% obesity. Main procedures RAS TLH and LASH / sacropexy, others were endometriosis (ASRM II-IV), transmural bladder resections, ureterolysis, pelvic abscesses, complex pelvic masses, myomectomies, uterine reconstructions, pelvic lymphadenectomies, omentectomy, complex adhaesiolysis (77%). Conversion to open and complication rate 0 %, operative time (total mixed cohort) 149 ± 60 min, Hb decrease 0.7 mmol/l, inpatient days 4 ± 1. Surgical complications: minor CD I/II 9% (n=6/65), III 3% (n=2/65), IVa 3% (n=2/65), no CD IVb and V. Comparing RAS TLH subgroup (n=35) vs. consecutive pre-robotic MIS TLH (n=45): BMI 32 ± 7 vs. 27 ± 6 kg/m² (p < 0.001); obesity WHO-grade II/III 31% vs. 11% (p = 0.043), ASA III 14% vs. 0% (p = 0.016), weight of all fibroid uteri 304g ± 278g vs. 189g ± 122g (p = 0.015), uteri > 250g: 594g ± 305g vs. 365g ± 149g (p < 0.001), operative time 142min ± 57 vs. 109min ± 32 (p = 0.002). No difference in CD complications, blood loss, conversion, 30-days re-admission, inpatient days.

Conclusions

Implementation of gynaecological RAS for broad procedure variety was feasible and safe in the Academic Teaching Hospital, comparable to a German University setting published by Balafoutas et al 2020. Compared to MIS, RAS TLH was successful in more complex and more obese cases.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/6615/cmabstsms/0000187950/6f2f747bdceed53df74b468ac8160d194076099efd1ddd1d0fe1d030879ec845>

Isthmocele repair by using laparoscopy combined to hysteroscopy

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Background

Isthmocele or c-section defect has been known since the 1950s and the rate relatively increased.

This lesion may be asymptomatic or cause disabling symptoms such as: abnormal bleeding, pelvic pain or decreased fertility.

The Laparoscopy is a first way to treat these isthmoceles when the anterior isthmus uterine wall is thin.

Methods

We present a series of four patients (04) treated in the hospital department by a dual hysteroscopic and laparoscopic approach.

Patients aged between 28 and 34 years old with a history of cesarean sections presented with significant isthmoceles causing cycle disorders and / or secondary infertility.

Since the residual myometrium was less than 2 millimeters, we have recommended to treat these isthmocele by laparoscopic route, starting with a first hysteroscopic location of the defect then by transillumination during laparoscopy.

We performed incision then excision of the old scar after detachment of the bladder and we avoided coagulations on the edges in order to optimize good healing after laparoscopic sutures in two planes.

An assessment of the disappearance of the symptoms and an estimate of the residual myometrium thickness three months postoperatively was made.

Results

Several routes are available: hysteroscopy, vaginal or laparoscopy.

We chose to treat our four patients by laparoscopic route after hysteroscopic identification.

Our four operated patients were symptomatic with menometrorrhagia cycle disorders and only three of them were infertile, without any postoperative complications noted.

We observed an amendment of the symptoms in 04 patients and pregnancies occurred in two patients among the three infertile at 04 months and 06 months after stopping a contraception of 06 months, or at 10 and 12 months respectively in the postoperative period.

These good results are consistent with those found in the literature.

We noticed a gain in anterior myometrial thickness in all four patients (an average of 07 millimeters) on endovaginal ultrasound.

Conclusions

The discovery of a large isthmocele in a patient with debilitating symptoms and a desire for pregnancy may suggest surgical management by laparoscopy and hysteroscopic identification which is an effective technique with low operative risk.

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A review article on the use of Palmer's point in gynaecological laparoscopy

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Background

Palmer's point was first described in 1974 and its intended use was when there was previous abdominal surgery. It is described as a point 3cm below the left costal margin in the midclavicular line. Unfortunately even after 35 years of this guidance it has limited role in current practice in gynaecologic laparoscopy, even when there are complicated cases that could benefit.

Methods

We present an evidence based discussion on the potential role of Palmer's entry and its advantages in gynaecology in laparoscopy in comparison to patients with subumbilical incisions with previous abdominal surgery as well as other indications. We also discuss the potential role that this entry technique can play in high risk patients and the best method to use to guide future use. It is clear that this tool needs to be utilised more and a further discussion is needed to raise awareness and educate on the benefit this tool can offer.

Results

Palmer's point entry in laparoscopic surgery is significantly underused in gynaecology when comparison is made to the surgical field. There are many reasons for this such as lack of training in safe approach at this site and the overwhelming majority of gynaecologists using and teaching the use of sub-umbilical entry. However, there is evidence for safe use of this entry point when it is not suitable to pursue sub-umbilical entry (1). This may be the case if there has been previous laparotomy or the presence of a large abdominal mass, such as a fibroid.

Conclusions

Commonly in gynaecology cases the primary trochars are inserted after inserting a veress needle at the subumbilicus point and creating a pneumoperitoneum. Although the veress needle can be inserted at multiple sites the majority of clinicians limit to use at a closed entry technique at the subumbilicus. There has been recent shift to direct visual entry at the primary trochar, which is commonly the sub-umbilical point. This can also be applied to the Palmer's point entry site using a smaller laparoscope and offers a safer window for entry as well as minimising risks of damage to vessels and viscera (2).

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Hysteroscopic management of an oblique vaginal septum with diverticulum in Herlyn-Werner-Wunderlich syndrome

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Background

Congenital vaginal diverticulum is an extremely rare anomaly of HWWS.

Methods

A 13-year-old virgin girl had aggressive cyclic dysmenorrhea for 4 months. Magnetic resonance imaging (MRI) showed a diagnosis of Herlyn-Werner-Wunderlich syndrome (HWWS): uterus didelphys, double cervix, obstructed right hemivagina with anterior vaginal wall cyst, and unilateral renal agenesis. Diagnostic hysteroscopy indicated a flat hemivaginal septum, left cervix, and uterine cavity, but no right cervix or other associated channel

Results

Hysteroscopic incision of the bulging oblique vaginal septum was performed and revealed two small openings in right vaginal wall, final diagnosis of vaginal diverticulum was made. Hemivaginal septum and the wall of the vaginal diverticulum was removed. The patient has been symptom-free for 2 months after surgery.

Conclusions

MRI is the best choice of imaging for the visualization of these anomalies, contributing to selection of the best treatment option.

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Implementation and Validation of a pain questionnaire for assessment of postoperative pain intensity after laparoscopic gynaecological procedures- a prospective clinical observational study with 1007 patients

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Background

With increasing importance of laparoscopic surgery in numerous disciplines and especially in gynaecology, a standardized assessment and exact recording of postoperative levels are important in order to optimize postoperative pain regimes and to enable an identification of patients in need of intensified postoperative pain management.

The aim of this study was to implement and validate a standardized pain questionnaire in order to assess postoperative pain levels in patients undergoing laparoscopic procedures.

Methods

Patients who underwent laparoscopic gynaecologic procedures between February 2013 and June 2019 at the Department of Gynaecology and Obstetrics, Saarland University Hospital, Homburg, Germany, were enrolled in this prospective, clinical observational study. All patients received pain medication following a standardized institutional protocol.

The pain questionnaire was developed by an interdisciplinary team and was designed to enable a multimodal recording of postoperative pain levels and vegetative symptoms after laparoscopic surgeries. Abdominal and shoulder pain were assessed with a numerical rating scale (range, 0-10), vegetative symptoms as nausea, vomiting and fatigue with a nominal scale (yes/no) and flatulence with an ordinal scale (no, light, medium, strong), three, twenty-four and forty-eight hours postoperatively via a written questionnaire. Patient characteristics, surgical parameters (as surgery duration, indication for surgery and severity of surgery according to Barkat (1)) and intra- and postoperative complications were recorded.

For the better evaluability and comparability in evaluation we analyzed the parameters not only for the recorded times but also as total score over the complete observational period (total from three, twenty-four and forty-eight hours postoperatively divided by three).

Results

From 2200 eligible patients, 1364 returned the questionnaire (response rate 62 %). 357 patients were excluded, 336 because of incomplete questionnaires and 21 for conversion to laparotomy. 1007 patients were used for the final analysis. Patients after endometriosis surgeries displayed after three hours (4,1 versus 3,6 p=0,002) and in the total score (3,8 versus 3,1 p=0,0027) statistically higher pain level in terms of abdominal pain, as patients with other surgery indications.

There was no correlation between an increased pain level and ureterolysis, adhesiolysis and severity of surgery according to Barkat.

Conclusions

This multimodal pain questionnaire enables a standardized registration of patients' postoperative pain levels and vegetative symptoms. The results can be used to identify patients at high risk for increased postoperative pain and to optimize intra – and postoperative analgetic treatment protocols.

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Clinical effectiveness of hysteroscopic morcellation of submucous fibroid and patient's experience

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Background

Submucosal fibroids are one of the reasons for irregular and heavy menstrual bleeding, postmenopausal bleeding, and intermenstrual bleeding. Furthermore, they can be associated with subfertility and miscarriages. Submucosal fibroids can be treated effectively by hysteroscopic tissue removal devices, ie: MyoSure, Truclear, Bigatti Shaver. These instruments can remove submucosal fibroid and save patients from having more major surgery (myomectomy or hysterectomy).

The aim of this project was to measure the effectiveness of a hysteroscopic tissue removal device "MyoSure device" in submucosal fibroid morcellation in both outpatient and inpatient settings at a district hospital. A special fluid management system – "Aquilix" was used to carry out this procedure. Also, to survey patients' satisfaction in terms of relieving their symptoms.

Methods

The data collection was done retrospectively using electronic and paper records of patients over a period of one year from 1/2/2020 till 1/2/2021. Patient satisfaction survey carried out in prospect.

Out of 135 Myosure procedures over this period, twelve cases were done for fibroid resection. Out of these 7 cases as an inpatient procedure and 5 outpatients.

Results

The data represented 58% of procedures as inpatient and 42% as an outpatient. Most of the patients (75%) had a complete resection of the fibroid in one setting. The completion of the resection for the outpatient procedure was 80%, on the other hand, the resection was completed in 71% of inpatient cases. The patient's symptoms were relieved, and no further treatment was required. The total satisfaction rate because of the procedure was 75%. The majority of the procedures remained uncomplicated; however, one patient (inpatient procedure) had recorded marginal fluid overload with no other complications.

Conclusions

MyoSure (both inpatient and outpatient) is an efficient, ambulatory, and safe procedure in treating submucosal fibroid. It is minimally invasive, innovative and a game-changing procedure. It can save the patient from having major surgeries, avoid unnecessary complications, promote a speedy recovery and able to go home on the same day which meets patients' expectations and satisfy their needs.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/6600/cmabstsms/0000188210/2c0754d17c961864f748e0fda67a01698032d9eba17e750d111ae4c183317124>

Long term effect on the development of endometrial carcinoma after endometrial ablation, a systematic review

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Background

The aim of this systematic review is to examine the long-term effect on the development of endometrial carcinoma after endometrial ablation.

Methods

A systematic search was conducted using Embase, MEDLINE and the Cochrane Library including articles from inception to March 2020. Only the following search terms were used: "Endometrial ablation" and "Endometrial carcinoma".

A meta-analysis was performed of the articles reporting on the incidence of endometrial carcinoma in their general population of women treated with endometrial ablation. Secondary, we included all cases reporting on the occurrence of endometrial carcinoma after ablation.

Data on incidence, risk factors, time between ablation and diagnosis of endometrial carcinoma, occurrence of first symptoms and age at diagnosis was evaluated. Furthermore, we evaluated the management in diagnostics and the treatment plan with prognosis.

Results

The search yielded a total of 873 publications. A total of 25 articles were included in this review and meta-analysis. Eleven articles met our in- and exclusion criteria for the meta-analysis and fourteen articles reported cases of endometrial cancer after ablation.

The incidence of endometrial carcinoma in women with endometrial ablation in history was calculated in nine retrospective studies, one prospective study and one randomized controlled trial. In a total population of 29084 women a mean of 0.1% (95% CI: 0.04%-0.2%, n=18) developed an endometrial carcinoma.

Secondary, fourteen articles presented a total of 37 cases of endometrial carcinoma after ablation. 72% of the women were diagnosed between one to ten years after ablation, of which 55% between five to ten years. Most women (64%) were between 50-60 years old at the time of diagnosis. 74% presented with unexpected vaginal bleeding after ablation and were diagnosed with endometrial sampling by pipelle and/or hysteroscopic biopsies. Apart from 1 case of endometrial carcinoma stage III, most of the described cases in this review were diagnosed as stage I or II endometrioid carcinoma. Treatment with hysterectomy and bilateral salpingo-oophorectomy with good prognosis was described in 70% of the cases.

Conclusions

From the available literature we can conclude that treatment with endometrial ablation is not related with an increased risk for developing endometrial carcinoma. With an incidence of 0.1% endometrium carcinoma in this review compared to 2-3% in the general population, the question rises if endometrial ablation might be a protective factor for endometrial carcinoma. However, the follow-up time in these studies is not always long enough to diagnose endometrial carcinoma in all endometrial ablation patients. Further research is of substantial importance to establish the relation between endometrial ablation and the development of endometrial carcinoma, including the best approach to diagnostically assess the endometrium after ablation.

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Analysis of surgical management of deep pelvic endometriosis in France

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Background

Endometriosis is a common disease in women, which requires a medical and surgical approach. Surgical societies recommend a multidisciplinary management in tertiary referral centers. The objective of our study is to assess the surgical management of endometriosis in France by studying the surgeons' attitude for bowel and urinary endometriosis.

Methods

We sent a survey to french endometriosis surgeons. We did a descriptive analysis and a comparative analysis between surgeons who believe endometriosis surgeons should be considered as "pelvic surgeons", able to treat bowel and urinary involvement.

Results

We included 90 answers, from gynaecologic surgeons from all over France. Gynaecologic surgeons perform minor bowel and urinary tract surgery, and more complex procedure are performed with digestive or urological surgeon (bowel resection 85% of cases, ureteric resection-anastomosis 84% of cases, ureteric reimplantation 91% of cases). Surgeons considering that gynaecologists should be able to deal with urinary and bowel endometriosis carry out more bowel and urinary procedures. They have an additional training in surgery and perform more endometriosis surgery every year. However, bowel and urinary endometriosis management by gynaecologic surgeons is contested among gynaecologists.

Conclusions

To this day, there is no dedicated training in France to coach gynaecologist to perform such procedures. Multidisciplinary approach is essential for quality care, in expert centers. The basic education of gynaecologic surgeons does not allow them to perform complex pelvic surgeries, but qualifications can be gained for these interventions with a special training, and perform a greater number of surgeries.

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Low and very low vs standard pneumoperitoneum pressure during laparoscopic Hysterectomies for benign pathology

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Background

To evaluate the safety and the perioperative outcomes using low (LPP; 8 mm Hg) and very low pneumoperitoneum pressure (VLPP; 6 mmHg) during total laparoscopic hysterectomy (LTH) for benign pathology versus the same surgery conducted with standard pneumoperitoneum (SPP; 12 mmHg).

Methods

We collected retrospectively data regarding three groups of patients operated with different pneumoperitoneum pressures. The study was conducted in Gynaecology and obstetrics unit of Alto Vicentino Hospital from 2013 to 2019. All procedures were completed via laparoscopy with 5-mm umbilical access and ancillary ports. We used a post-surgery fast track for leading to early discharge in wellbeing conditions. We collected the number of analgesics used. The hospitalization time was calculated in hours. Statistical analysis was performed using the Chi2 test to compare categorical variables and using the T-test and Mann-Whitney test to compare continuous variables. $P < 0.05$ was considered statistically significant.

Results

271 patients were included in the study. Laparoscopic hysterectomy was performed using VLPP in 83 patients (30,6 %), LPP in 100 (36,9 %) and SPP in 88 (32,5%). In 21 (7%) patients we need to increase intra-abdominal pressure for a better view in difficult situations. In one patient (0,03 %) in the LPP group the laparoscopic via was switched to laparotomy. The median surgical duration was, respectively, 103 minutes in the first group, 93 in the second group and 94 in the third group (p 0,039, 0,119, 0,119). Rescue analgesic requirement differed statistically between groups: in the SPP group 70.45 % received 3 or more analgesics vs 25% in the LPP group vs 22,89% in the VLPP group. There was no difference in pain relief administration between the VLPP (1.61) and LPP group (1,67). The median length of hospital stay was respectively 43 vs 55 vs 71 hours (p 0,0, 0,0, 0,0). There is no increase in the number of intra and postoperative complications in the three groups.

Conclusions

In experienced hands, the use of LPP and VLPP is a safe and feasible approach, reduces post-surgical pain and analgesics' administration, showing no difference in intra and postoperative complications. The lowest possible pneumoperitoneum pressure should be reached to improve postoperative outcomes and reduce hospital stay.

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Get it right first time, the argument for using myosure hysteroscopy in managing focal endometrial pathology, Review of 317 cases over 5 years in Cumbria

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Background

This study aims to evaluate the efficacy of the myosure removal of endometrial pathology in the outpatient setting in Cumbria from 2014 to 2019. The philosophy is one stop service predicting the need for the myosure depending on the ultrasound findings as well as electively book for the myosure to remove uterine cavity focal pathology like fibroid or cancer.

Methods

This is a retrospective analysis of the 317 myosure hysteroscopy episodes. The inclusion criteria was the use of myosure to remove uterine cavity pathology in a standardised technique. The patients were advised to self medicate if possible with NSAIDs at home one hour before the procedure and on arrival they were offered cyclizine, buscupan and tramadol. 89% of cases had some form of premedication. Local anaesthetic protocol included instillagel in the vagina cervical block with Scandonest was used in 94.3%. Data was collected contemporaneously including patient feedback and later outcomes of histology were fed into the data.

Results

The average age of the patient was 53.3. The range of the time from start to finish was between 5 to 35 minutes with the average 12.76(+/- 4.8 SD) minutes. 12% of cases took longer than 25min because of comorbidity, complex pathology and obesity. The average BMI was 32.7 with 8.5% had BMI > 50. 57.1% had ASA1, 35.7% had ASA2 and 7.1% had ASA3.

Majority (78.96%) had previous pregnancies but there was a need for cervical dilation in 90.2%.

There were 100 neoplastic polyps (33 cancer and 77 hyperplasia), hence in this series the myosure needed in 3.17 cases to remove one cancer or precancer of the endometrium. The rate of adverse reaction was 7.6%, mainly vagal reactions, allergic reaction, cervical trauma, false tract, perforation and bleeding. There was one admission with bleeding required transfusion. There was no case of fluid overload. There was 100% removal of the pathology. When patients were asked 97.79% will go through the procedure again if needed and 92.4% were very satisfied with the procedure, 5% were satisfied, and 2.6% found it acceptable. There were no failed cases but myosure was felt not necessary in 22 (6.9%) case as the cavity was completely normal.

Conclusions

Myosure hysteroscopy proved efficient and safe in the outpatient setting where it was used to get pathology out completely. Its value was felt mostly in cases where there was severe obesity or serious comorbidity where general anaesthetic will be determinately risky or even contraindicated. Given the effect of the Covid pandemic on the theatre resources then Myosure setting will be a better and safer option than hysteroscopy under general anaesthetic. Hence Myosure can be an effective part of a ambulatory setting to get it right first time to completely remove uterine cavity pathology.

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ES30-0424 - P*028
Best E-Poster

A novel signature to predict the 5-years survival chances in patients with endometrial carcinoma

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Background

To predict 5-year survival state in endometrial carcinoma by combining lncRNA-LA16C-313D11.11 with clinicopathologic features.

Methods

Quantitative real-time PCR (qRT-PCR) was implemented to analyze the expressions of LA16c-313D11.11 in 60 EC tissues. The data of clinicopathological characteristics and follow-up were retrospectively gathered and analyzed. Multivariate logistic regression analysis was performed to establish the prediction model, and the discrimination, calibration and clinical usefulness of the prediction model was evaluated by concordance index (C-index), calibration chart and decision curve analysis. The model was internally validated using bootstrap validation.

Results

The predictors included in the prediction histogram included the expression of lncRNA-LA16C-313D11.11, age, depth of myometrial invasion, and FIGO stage. The model demonstrated a modest discrimination (c-index = 0.837; 95% confidence interval, 0.693 -- 0.981) and a good calibration. Moreover, high C-index value of 0.768 could be reached in the interval validation as before. ROC curve analysis showed that the area under the ROC curve (AUC) was 0.730.

Conclusions

This study has revealed a predictive value of lncRNA-LA16C-313D11.11 and successfully developed a nomogram for prediction of 5-year survival status in endometrial carcinoma, which could assist clinical decision-making.

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ES30-0438 - P*029

Best E-Poster

Transvaginal natural orifice transluminal endoscopic surgery (V-NOTES) in gynaecologic surgeries: initial experience with 21 cases

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Background

Transvaginal natural orifice transluminal endoscopic surgery (V-NOTES) is an emerging surgical technique in the evolution of minimally invasive surgery. This new technique allows surgeries to be performed by a vaginal access with an endoscopic control. The combination of the vaginal surgery and the laparoscopy brings many advantages mainly related to the absence of incisions of the abdominal wall and the better visualisation of the abdominal cavity. V-NOTES widens the indications of vaginal hysterectomies by exceeding its limitations (large uterus, absence of prolapsus, history of caesarean), allows an adnexal surgery simultaneously and allows more women to benefit from one day hospitalisation.

Methods

The objective of this study is to declare our initial experience of V-NOTES in gynaecologic surgeries. From June 2020 to June 2021, 21 gynaecological procedures were performed by V-NOTES. 18 hysterectomies for benign uterine diseases, 2 bilateral salpingectomies for sterilisation and 1 salpingo-oophorectomy for surgical castration were realised by the same surgeon in one university hospital. Perioperative outcomes were evaluated retrospectively.

Results

None of the 21 V-NOTES procedures required conversion to conventional laparoscopy or laparotomy. The mean operative time was 69.72 ± 20.75 minutes for hysterectomies and 48.33 ± 28.43 for adnexal surgeries. The mean uterine weight was 185.64 ± 84.61 gr. And the mean hospital stay was 2.05 ± 0.24 days for hysterectomies and adnexal surgeries were performed in one day hospitalisation. There were two intraoperative complications, the first was a bleeding of one uterosacral ligament, controlled after coagulation of the bleeding's source. The second complication was a bladder injury made during the anterior colpotomy of a patient with history of caesarean. This wound was sutured by V-NOTES. Two patients required postoperative antibiotic treatment for a cystitis and a vaginal infection.

Conclusions

Our initial experience confirms the feasibility and the safety of this technique in gynaecology. We do believe that training allows to reach benefits safely. However, prospective multicentre studies are needed to strengthen the validity of this new approach.

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Reproductive and neonatal outcomes in women with unicornuate uterus: a population-based study of 9 million pregnancies

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Background

Unicornuate uterus represents a congenital anomaly resulting from arrested development of one of the two Müllerian ducts during embryogenesis with a reported prevalence of approximately 0.03% to 0.1% and represent between 5% and 20% of all Müllerian anomalies.

Patients with Unicornuate uterus experience greater gynaecological and obstetrical morbidity including, but not limited to, infertility, early pregnancy loss and/or preterm delivery, as well as other pathologic conditions such as endometriosis or hematometra.

Given the limited knowledge in existing literature pertaining to reproductive, pregnancy and neonatal outcomes, the present study aims to use a population database to determine the association of Unicornuate uterus with obstetrical and neonatal outcomes, and to provide guidance on appropriate surveillance strategies to prevent and/or decrease the risk of associated maternal and fetal morbidity.

Methods

A retrospective cohort study was performed utilizing the Health Care Cost and Utilization Project-Nationwide Inpatient Sample database from 2004 through 2014. A delivery cohort was created using ICD-9 codes; code number 752.33 was used to extract cases with association to Unicornuate Uterus. Pregnancies complicated with Unicornuate Uterus (cases) were compared to pregnancies without Unicornuate Uterus (control). A multivariate logistic regression model was used to adjust for statistically significant variables (P-value <0.05).

Results

There were 9,094,499 deliveries during the study period. 802 pregnant women were found to have Unicornuate Uterus, relative to 9,095,986 patients in the control group. Patients in the Unicornuate Uterus group were more likely to have Chronic Hypertension (P=0.02), thyroid disease (P <0.001), previous Caesarean section (P <0.001), and to have had in-vitro fertilization (IVF) (P <0.001).

The risk of pregnancy induced hypertension and preeclampsia were significantly greater in the Unicornuate uterus group relative to the control group, after controlling for baseline risk factors; aOR 1.47 [95% CI 1.16 – 1.86] and aOR 1.70 [95% CI 1.24- 2.32], respectively. Additionally, gestational diabetes prevalence was significantly greater in the Unicornuate uterus group relative to controls (aOR 1.34 [95% CI 1.04 – 1.74]).

The rates of preterm delivery, preterm premature rupture of membranes (PPROM) and caesarean section were higher in the Unicornuate uterus group compared to controls after controlling for confounding factors, aOR 3.76 (95% CI 3.14 – 4.5), aOR 5.11 (95% CI 3.70 – 7.05) and aOR 11.38 (95% CI 9.16 – 14.14) respectively.

At birth, 11.1% and 2.2% of the neonates were found to be small for gestational age (SGA) in the Unicornuate uterus and the control groups, respectively., aOR 5.42, (95% CI 4.28 - 6.86).

Conclusions

Women with Unicornuate Uterus are at higher risk for infertility, pregnancy complications, and small for gestation age neonates. Unicornuate uterus patients may thus benefit from increased surveillance to prevent and/or decrease maternal and neonate morbidity and mortality.

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EPOSTER

ES30-0015 - P032

E-Poster

Hysteroscopic morphological characteristics in grade 3 endometrial cancer with distant lymph node metastasis

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Background

We present the case of a 73 year old patient, who underwent hysteroscopy and endometrial biopsy, due to initial symptomatology of abnormal vaginal bleeding

Methods

case report

Results

Hysteroscopy provides an accurate evaluation of the endometrial cavity and allows direct sampling of the suspected lesion. Its use in the initial work up remains controversial, due to the hysteroscopic distention media and intrauterine pressure that could "flush" endometrial cells in the fallopian tubes and the peritoneal cavity. In order to minimize the small risk of dissemination, guidelines suggest that the procedure should maintain a low intrauterine pressure and its duration should be as short as possible. According to the guidelines, we performed a low pressure hysteroscopy (less than 80mmhg) in a 73 year old patient with abnormal vaginal bleeding and no significant medical or family history. The hysteroscopic video revealed a large tumor deriving from the right ostia and undertaking almost half of the endometrial cavity. The tumor exhibited more polypoid and less papillary structure, no abnormal vessels were observed and was lacking a smoothing surface. These impressive morphological features suggested the possibility of malignant lesions. Extensive endometrial biopsies were collected and the polypoid mass seemed to infiltrate deeply in the myometrium. Histopathology findings revealed a grade 3 endometrioid cancer. The pre-operative evaluation of the patient included a magnetic resonance imaging (mri) that also revealed a bilateral lymph-node metastasis at the common iliac vessels and the para aortic vessels. The patient was scheduled for exploratory surgery

Conclusions

Despite the concerns of cancer cell dissemination, the hysteroscopy is considered a useful tool in the pre-operative investigation and management of patients with possible endometrial cancer

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Uterine septum and reproductive outcome. From diagnosis to treatment. How, why, when

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Background

Septate uterus is defined as a deviation from normal anatomy resulting from embryological maldevelopment of the Müllerian duct which leads to the presence of a midline septum into the uterine cavity. It is the most common uterine congenital malformation in women with poor reproductive outcome. Due to lack of uniformity with the different classification systems none of the diagnostic methods used in the recent era are considered as gold standard. Data regarding the reproductive outcome of women with septate uterus are still equivocal, thus recommendations regarding optimal treatment of these women are biased.

Methods

This review aims to clarify some gray areas regarding the association of septate uterus with poor reproductive outcome and the best methods for accurate diagnosis and treatment. All relevant articles, written in English and published in Pubmed, were selected by using text words/keywords such as: septate uterus, diagnosis, treatment, reproductive outcome. Selected studies investigated the classification, diagnostic methods, treatment and the reproductive outcome. Authors crosschecked selected studies and decided by common consensus which should be included.

Results

There is lack of consensus between the three systems for the classification of septate uterus that are mainly used in the recent era: the American Society of Reproductive Medicine (ASRM) system, the Congenital Uterine Malformation by Experts (CUME) criteria and the European Society of Human Reproduction and Embryology (ESHRE) and European Society for Gynaecological Endoscopy (ESGE). Presence of septate uterus is more frequent when using the ESHRE-ESGE criteria compared to when using the ASRM criteria. In comparison with CUME criteria, the presence of septate uterus is significantly higher when using ESHRE-ESGE criteria and significantly lower if using the ASRM criteria. Hysteroscopy should be combined with other diagnostic techniques for septate uterus, such as MRI or 3-D ultrasound, so that the risk of misclassification of a septate uterus is significantly reduced in this case. Hysteroscopic metroplasty has prevailed as treatment technique as it is related with less adverse effects and lower morbidity. However, it is still unclear if there is really a significant difference in the reproductive outcome between women who underwent hysteroscopic metroplasty and those who chose expectant management. Hysteroscopic metroplasty is genuinely indicated in women with recurrent miscarriages as it improves significantly their reproductive outcome, with good pregnancy rates (80% - 90%) and good live birth rates (53.7%). However, its role on the treatment of women with primary infertility still remains controversial as pregnancy rate in those women is significantly low. (40% - 53.1%)

Conclusions

More randomised controlled trials (RCT) and well designed research are needed to provide strong data on the accuracy of diagnostic methods and the optimal treatment strategy regarding the reproductive outcome of patients.

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A case of haemoperitoneum caused by rupture of endometrioma. Case report and literature review

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Background

Endometriosis occurs in 2 to 10% of women in their reproductive years, and in 50% of women with fertility problems. It causes a chronic inflammatory reaction, which results in fibrosis and adhesions. We can differentiate three major phenotypes of lesions: superficial peritoneal gunshot lesions, endometriomas and deep infiltrating endometriosis (DIE). Endometrioma is a benign cyst of the ovary that contains ectopic endometrial tissue and is a common cause of endometriosis (17-44%). Haemoperitoneum caused by endometriosis is a rare entity, but it is associated with important morbidity and mortality - therefore it is important to keep this diagnosis in mind.

Methods

In this case report, a 25 year old, virgo woman attended a gynaecological private practice with symptoms of anaemia, history of chronic dysmenorrhea and polymenorrhea and incidental finding of 10x10 adnexal mass with endometriotic content, sign of kissing ovaries and free fluid on abdominal MRI scan. Her haemoglobin was 7.5 g/dl and she was admitted urgently for transfusion of 2 units of red blood cells. The upcoming day she underwent laparoscopy. Bilateral endometriomas were present and rupture of the left/right ovarian wall was recognized causing haemoperitoneum and presence of free "chocolate" content into the abdominal cavity. Small peritoneal endometriotic lesions were recognized in the pelvic side walls and the pouch of Douglas. Adhesiolysis was performed to mobilize the ovaries from the posterior uterine wall and the sigmoid colon. The other endometriotic cyst was ruptured incidentally during mobilisation and "chocolate" content was aspirated. Both cyst capsules were excised and bipolar diathermy was applied to the normal ovarian parenchyma for haemostasis. Peritoneal endometriotic lesions were cauterized using bipolar diathermy. Procedure was uneventful and good haemostasis was achieved. The patient received 2 units of red blood cells post-operatively and recovered well with 10.5 g/dL post-operative haemoglobin.

Results

Haemoperitoneum caused by rupture of endometrioma is a rare entity, and is more likely to occur during pregnancy. The haemorrhage most commonly originates from endometriosis lesions at the posterior surface of the uterus and on the utero-ovarian vessels in the parametrium, but in many cases the exact source of bleeding can not be identified. MRI has proven to be a useful method for detection of endometriomas. Endometriomas generally appear with high signal intensity on T1-weighted images and characteristically low signal on T2-weighted images.

Conclusions

The diagnosis should be given consideration when a patient, with chronic endometriosis related symptomatology, presents signs of intra-abdominal haemorrhage during a period of vaginal blood loss, and after ruling out an ectopic pregnancy, a bleeding from a corpus luteum and other obvious non-gynaecological pathology.

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Classification and staging of adenomyosis

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Background

Adenomyosis is defined as the formation of ectopic endometrial glands and stroma into the myometrium. The exact pathophysiological pathway of the disease is not precisely known and various theories about the pathogenesis of adenomyosis have been proposed. The classic hypothesis of unverifiable and direct relationship between adenomyosis and endometrium has been questioned by recent data proposing a mechanism of metaplastic process and de novo epithelial-mesenchymal transition among displaced embryonic Mullerian remnants or adult stem cells. Lack of consensus on the pathogenesis of adenomyosis has made rather difficult to accurately stage and classify the disease.

Methods

This review aims to give briefly recent advances regarding up to date classification methods based on correlation between histology and imaging. All relevant articles, written in English and published in Pubmed, were selected by using keywords such as: adenomyosis, pathogenesis, classification, staging. Selected studies investigated the pathophysiological pathway, staging methods and classification systems of adenomyosis.

Results

The gold standard method for accurate diagnosis and classification of adenomyosis is histology. Adenomyosis is classified as focal in case that endometrial glands and stroma surrounded by normal myometrium is found on the specimen. Diffuse will be characterized if there are endometrial glands and stroma distributed throughout the myometrium. Adenomyomas are considered to be subgroup of focal adenomyosis which is surrounded by hypertrophic myometrium. A consensus of experts, regarding ultrasound based classification of adenomyosis, proposed that ultrasound classification should involve stepwise detailed description of the disease. Starting with the Morphological Uterus Sonographic Assessment criteria for the first step diagnosis and following: I) detailed determination of the location II) proper discrimination between focal and diffuse disease, III) differentiation between cystic or not cystic IV) mapping of layer involvement, V) classification of the extend of the disease based on the proportion of uterine corpus affected, VI) calculation of the size of lesion. Magnetic resonance imaging (MRI) is highly accurate in the diagnosis of adenomyosis, with slightly higher sensitivity (70–93%) and specificity (86– 93%) for diagnosing adenomyosis in comparison to transvaginal ultrasound. 4 discrete subtypes of adenomyosis based on the geographic interrelationship between the adenomyosis and other structural components of the uterus have been described with MRI. Advances on imaging techniques resulted to more complex classification schemes based on specific features like uterine size, detailed extent of disease, configuration of lesions and degree of junctional zone involvement.

Conclusions

Adenomyosis is a diverse disease whose pathophysiological pathway is still not clearly established. There is lack of correlation between the imaging, clinical and histologic findings of adenomyosis in the recent literature which reflects in the absence of international consensus on an accepted, uniform classification of adenomyosis.

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Young nulligravid with chronic non-puerperal uterine inversion secondary to a prolapsed submucous myoma with malignant histopathology: A case report

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Background

Uterine inversion is a rare event in the non-puerperal period. The case report centers on the dilemmas of diagnosing this uncommon case and the key points in surgical management of uterine inversion in a young patient.

Methods

Presenting a case report of a 23 year old nulligravid with a 5-month history of heavy and prolonged vaginal bleeding with intermittent hypogastric pain. Examination showed a necrotic mass measuring 7x8x5 cm occupying the vaginal vault with no palpable cervix and uterus. Ultrasound confirmed a prolapsed submucous myoma with uterine inversion. Diagnosis was chronic, complete non-puerperal uterine inversion secondary to a prolapsed submucous myoma. Biopsy of the prolapsed mass revealed infarcted polyp. Surgical plan was to preserve fertility, perform a hysteroscopic- and laparoscopic- guided vaginal myomectomy followed by uterine repositioning.

Results

On hysteroscopy, there was no identifiable cervix, the prolapsed mass was too large and surgical landmarks were not identifiable. Laparoscopy revealed the uterus was inverted into a constricted "flower-pot" ring towards the vaginal canal at the level of the round ligaments and bilateral ovaries and fallopian tubes were grossly normal. Amputation of the prolapsed mass in a piecemeal fashion was done followed by attempts at uterine repositioning by Huntington's and Hultain's maneuvers but was not successful. The remaining vaginal mass was too large to pass through the cervix, decision was to proceed with laparoscopic total hysterectomy with bilateral salpingectomy. Histopathology revealed Malignant Spindle Cell Neoplasm.

Conclusions

Uterine inversion cases are uncommon in the non-puerperal period and are often difficult to diagnose and manage even for an experienced gynecologist. Cases should be considered in the setting of a mass protruding from the vagina, and a non-palpable uterus on abdominal examination or invisible pelvic organs on ultrasound. When the inversion is chronic, reverting maneuvers may prove difficult, rendering fertility-sparing techniques implausible. In the setting of fertility preservation, malignancy must be ruled out.

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An unexpected anterior peritoneal lesion resembling caesarean section scar endometriosis resected laparoscopically

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Background

A 40 year old patient presented to our endometriosis clinic with a lump at the site of her caesarean section (CS) scar. She has an unremarkable surgical history apart from a CS 11 years ago in another country. The patient reported cyclical pain at the area of the nodule and scored high for dysmenorrhoea, dyspareunia and bladder pain. On examination, a firm nodule could be palpated underlying her CS scar.

Ultrasound scan of the anterior abdominal wall showed a heterogenous 3cm mass with vascularity and scar endometriosis was proposed as the diagnosis. A further transvaginal ultrasound of the pelvis was unremarkable. In view of the other endometriosis symptoms, diagnostic laparoscopy, treatment to pelvic endometriosis if present and excision of the abdominal wall lesion was scheduled.

Methods

Given the previous CS and low body mass index of 18kg/m², entry to the peritoneal cavity was achieved through the modified Palmer's point (8cm lateral to the midline and 3.5cm inferior to the left costal margin). Laparoscopy revealed an anterior peritoneal lesion involving the urachus and medial umbilical ligaments. The lesion had a fibrotic texture and was causing tethering of the above structures. Using an advanced electrosurgical device (Harmonic®, Ethicon) the lesion was dissected off the anterior peritoneal wall. Undissolved suture material was seen during dissection placed there during the CS to close the parietal peritoneum. The lesion was excised completely and did not extend through the rectus sheath. Moreover, undissolved suture material on the visceral peritoneum (utero-vesical fold) and a firm left pararectal nodule were noted, the latter of which was resected and sent to histopathology. The procedure was uncomplicated and the patient was discharged the following day.

Results

CS scar endometriosis is a rare entity, albeit well reported. Given the increasing CS rate as well as the improved awareness from clinicians, CS scar endometriosis is often included in the differential diagnosis of women with an abdominal wall nodule and a history of CS. In this case, histology from the laparoscopically resected anterior peritoneal nodule revealed suture granuloma and that from the left pararectal nodule confirmed endometriosis.

Conclusions

CS scar endometriosis should be suspected in a patient with localised pain and a palpable nodule at the site of a previous CS scar. However, in a very slim patient, such a nodule could represent a peritoneal lesion rather than one on the anterior abdominal wall. Laparoscopy should therefore be performed to evaluate the extent of the lesion and to determine how to best access and excise it.

Finally, as clinicians, we should be aware of different surgical techniques and material that might be used in other countries during a routine procedure such as CS. In this case, a foreign body reaction mimicked scar endometriosis.

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Laparoscopic sentinel node for low and intermediate risk endometrial cancer: pilot results of a prospective cohort

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Background

To present the surgical outcomes of laparoscopic sentinel node technique in low and intermediate-risk endometrial cancer patients.

Methods

A prospective cohort study was initiated on 03/2020 enrolling patients with low and intermediate-risk endometrial cancer being eligible for total laparoscopic hysterectomy and laparoscopic pelvic sentinel node. Primary outcomes of the study were the rate of successfully detected sentinel nodes, number of resected nodes as well as nodal status of resected nodes. Pilot results of this cohort are presented in the current study.

Results

There were overall 11 cases performed during 03/2020-05/2021, of which 8 were low and 3 were intermediate-risk endometrial cancer patients. Successful bilateral detection of SLN was achieved in 8 cases (72.7%), unilateral detection in 2 cases (18,2%) while no detection in 1 case. Median number of resected nodes was 2.5 nodes from the left side and 3 nodes from the right side. No lymph node was observed to be invaded in this sample of enrolled patients. Postoperative period was uneventful in all patients.

Conclusions

SLN is the standard of treatment in low and intermediate-risk endometrial cancer patients. Continuous training improves surgical technique thereafter optimizing surgical and oncological outcome.

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Effectiveness and safety of sentinel node in endometrial cancer: review of the literature

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Background

To discuss the effectiveness and safety of sentinel lymph node in endometrial cancer cases.

Methods

A comprehensive review of published literature in Pubmed, with special focus on meta-analyses and prospective studies, was performed.

Results

Sentinel lymph node (SLN) is indicated for treatment of low and intermediate risk endometrial cancer. Since lymphadenectomy is an important source of morbidity (17.5%) with 2.5% mortality and no proven therapeutic value has been indicated for systematic lymphadenectomy, minimization of approach aims to reduce postoperative morbidity such as lymphedemas. Blood loss, operation time and postoperative complications of SLN are comparable with no lymphadenectomy and significantly decrease compared with systematic lymphadenectomy. SLN detection rates are reported to reach 97% per patient, 87% per hemipelvis and 78% bilaterally. SLNs detected bilaterally are associated with 95.8% sensitivity and over than 98% negative predictive value. Use of SLN strategy is proven to mitigate concern for missed paraaortic micrometastasis, thereafter eliminating risk for postoperative overtreatment. Finally, regarding used regimen, ICG is potentially superior to blue dye as its use was associated with 26.5% increase of SLN detections rates. Furthermore, a larger dose of ICG is associated with a higher number of retrieved SLNs but not with an increased bilateral detection rate.

Conclusions

SLN is a safe and effective strategy to identify nodal micrometastasis, thereafter optimizing complimentary therapy in low and intermediate risk endometrial cancer patients.

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Successful laparoscopic treatment of early-stage cervical cancer following a two-step staging and surgical strategy: case report

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Background

To present the successful laparoscopic treatment of an early-stage cervical cancer case based on two-step surgical procedure strategy.

Methods

A 46-year old woman was admitted with diagnosis of cervical cancer based on punch biopsy after abnormal colposcopy. Physical examination revealed no extension of cancer to parametria and rectum. Abdominal MRI indicated an estimated size of 1.8 cm as maximum diameter, while nodal status was indicated as negative for metastasis according to imaging.

Results

Following ESGO guidelines, a laparoscopic bilateral lymphadenectomy was performed, resulting in the resection of overall 19 lymph nodes, all negative for micrometastasis according to final histology. The patient was reoperated with laparoscopic radical hysterectomy type C Querleu. The operation lasted 3 hours and the postoperative period was uneventful. Final histological diagnosis was IB1 stage cervical cancer. This was the first case of cervical cancer treated according to two-stage surgical strategy in our Department, finally permitting the minimally invasive and effective treatment of patient.

Conclusions

Negative imaging regarding nodal status is associated with 18% false negative results. Therefore, two-stage surgical staging and treatment is the strategy of choice. Minimally invasive approach by well-trained specialized physicians may actually be equally effective and safe, offering the patient all benefits of minimally invasive surgery.

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Anterior abdominal wall endometriosis and atypical lesions distant to the Caesarean section scar: A report of three cases

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Background

Anterior abdominal wall endometriosis (AWE) is a rare but well reported entity that usually presents at the site of a caesarean section (CS) scar. The aetiology is iatrogenic due to the seeding and inoculation of the anterior abdominal wall with endometrial cells during hysterotomy and amniotomy at CS. In this case series, we present 2 cases of AWE at a site distant to the CS scar and a case of an atypical abdominal wall lesion mimicking CS scar endometriosis.

Methods

Case 1:

A 37-year-old patient presented with a two-year history of left sided abdominal pain typically worsening during her menstrual periods and associated with a 3cm lump in the left periumbilical region. She was para 3, all delivered by CS, the last one occurring 9 years ago. The patient did not have a previous diagnosis of endometriosis. Excision of the lesion was performed uneventfully via a paramedian incision. Histology confirmed AWE.

Case 2:

A 31-year-old patient presented with a five-month history of lump in her right iliac fossa causing constant pain with significant exacerbation during her menstrual period. The patient was para 1, delivered by CS 2 years before presenting to the gynaecology clinic. Prior to her pregnancy, she was diagnosed with endometriosis during laparoscopy. On examination, a 2cm nodule could be palpated about 4-5cm superior and lateral to the CS scar on the right. Excision was performed uneventfully via a 3cm incision over the McBurney's point. Histology confirmed AWE.

Case 3:

A 40-year-old patient presented to our endometriosis clinic with a two-year history of a painful lump at the site of her CS scar performed 11 years ago in a different country. The pain from the lump was not cyclical but she was reporting cyclical pelvic pain and dyspareunia. On examination, a 3cm firm tender lump was felt beneath the CS scar and an ultrasound of the anterior abdominal wall raised a suspicion of scar endometriosis. Laparoscopy revealed an anterior peritoneal lesion involving the urachus and medial umbilical ligaments and contained undissolved suture material placed at the time of CS. Complete laparoscopic excision was achieved, and histology revealed suture granuloma.

Results

Scar endometriosis or AWE can present in women with or without symptoms or previous diagnosis of endometriosis. The onset of symptoms is variable and ranges from months to years following a CS. In the two confirmed cases of AWE, cyclical pain was present. Surgical excision with clear margins appears to be the definitive treatment.

Conclusions

AWE distant to the CS scar is very rare and is associated with localised cyclical pain and the presence of a lump. Absence of cyclicity such as in case 3 should raise suspicion of an alternative diagnosis.

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Leiomyosarcoma: an unlikely office hysteroscopic diagnosis

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Background

Hysteroscopy is the gold standard for the diagnosis and treatment of uterine cavity pathology. The main indications are abnormal uterine bleeding and suspected endometrial pathology. With this technique it is possible to perform biopsies and the excision of endometrial lesions, such as polyps. Uterine leiomyosarcomas are a very rare form of tumor, corresponding to 3-5% of uterine cancers. The associated symptoms depend on its location, although the most common symptom is abnormal uterine bleeding.

Methods

Consultation of the patient's clinical file and data evaluation.

Results

Clinical case: 54-year-old post-menopausal woman referenced to gynaecology consultation in our hospital with abnormal uterine bleeding for 1 year. On ultrasound, the uterus was enlarged with an intramural and subserous mass measuring 53x74x57mm, with difficult visualization of the endometrial line. Blind endometrial biopsy was performed, with histological result of atrophic endometrium. An office hysteroscopy was proposed for diagnostic evaluation. Upon examination, a large cavity was found, with a bulging posterior wall compatible with the mass described on ultrasound and atrophic endometrium. In a context of prolonged abnormal uterine bleeding, a biopsy of the posterior wall was performed with hysteroscopic scissors, although there was no visible endometrial lesion. Histological diagnosis of leiomyosarcoma was made.

Conclusions

Office hysteroscopy allows diagnosis to be made by performing directed biopsies. Uterine leiomyosarcomas are more often accidentally diagnosed on histological evaluation after surgery in affected patients suspected of having benign smooth muscle pathology. In the absence of intracavitary changes, hysteroscopic biopsies are not mandatory. In this case, although the mass detected on ultrasound had suggestive characteristics of myoma and the hysteroscopic findings were also compatible with an intramural mass, biopsy of the posterior wall was performed, allowing the diagnosis of leiomyosarcoma to be made. This case demonstrates the possible importance of performing biopsies with adequate sampling, even without visual suspicion of malignant pathology, depending on the clinical context and symptoms of the patient.

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Office diagnostic hysteroscopy: twenty-eight months evaluation

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Background

Hysteroscopy allows diagnosis of uterine intracavitary pathology and can be safely performed in office.

Methods

Retrospective cohort observational study of clinical data from women who underwent office diagnostic hysteroscopy between January 2019 and April 2021 in our Institution. All hysteroscopies converted to an operative procedure were excluded from the study.

Results

During this period, 154 diagnostic hysteroscopies were performed in our hospital. Mean patient age was 52 years old (maximum - 83 years; minimum- 22 years). 89 women were pre-menopausal (57,8%). Main indications were ultrasound suspicion of endometrial polyps (38,3% - 59 cases), followed by abnormal uterine bleeding (30,5% - 47 cases), endometrial thickening (29,8% - 46 cases), post-menopausal abnormal uterine bleeding (30,1% - 31 cases) and submucosal leiomyoma suspicion (6,5% - 10 cases). Other indications, such as the presence of intracavitary fluid, retention of ovular fragments and second look procedures were present in 9,1% (14 cases). In 51 cases (33,1%) there were more than one indication for the procedure. The exam was reported normal in 46 cases (29,8%), showing atrophy in 34 cases (22,7%). Endometrial polyps were detected in 19 cases (12,3%), submucosal leiomyomas in 16 cases (10,4%) and synechiae in 7 cases (4,5%). Abnormal findings suggestive of endometrial hyperplasia (7,8% - 12 cases) and carcinoma (7,8% - 12 cases) have also been described. There were more than one finding in 7 cases (4,5%) and the exam was inconclusive due to hemorrhage in 2 cases (1,3%). Endometrial biopsy was performed on 89 women (57,8%): histological diagnosis revealed no changes in 19 cases (12,3%), endometrial atrophy in 4 cases (2,6%), endometrial polyps in 27 cases (17,5%), leiomyomas in 5 cases (3,2%), simple endometrial hyperplasia in 6 cases (3,9%), endometrial hyperplasia with atypia in 2 cases (1,3%), carcinoma in 12 cases (7,8%), endocervical polyp in 2 cases (1,3%) and leiomyosarcoma in 1 case (0,6%). In 3 cases, more than 1 diagnosis was made (1,9%) and in 3 cases the sample was insufficient (1,9%). Local hysteroscopic anesthesia was performed in 7 women (1,4%). There were no complications reported. In 13 cases (8,4%), the patient was posteriorly referred to the operating room to perform hysteroscopy under general anesthesia, for excision of large masses (7,8% - 12 case) or because of low pain tolerance (0,6% - 1 case).

Conclusions

Diagnostic hysteroscopy allows endometrial cavity visualization and targeted biopsies. Despite being an invasive procedure, it is well tolerated in most cases and can be safely done in outpatient setting. Currently, it is performed frequently in our hospital, offering a huge advantage over blind endometrial biopsies, and, if necessary, can be converted to operative hysteroscopy.

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Office operative hysteroscopy – twenty-eight months experience

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Background

Operative hysteroscopy is a procedure that allows treatment of uterine intracavitary pathology and can be safely performed in office. It allows fast and effective treatment without the need for hospitalization or anesthesia.

Methods

Retrospective cohort observational study of clinical data from women who underwent office operative hysteroscopy between January 2019 and April 2021 in our Institution.

Results

A total of 491 office operative hysteroscopies were performed. The studied population consists of women with an average age of 57 years old (maximum – 92 years old; minimum – 22 years old), of which 279 were post-menopausal. Main referral indications were suspected endometrial polyps on ultrasound (52,7% - 259 cases), endometrial thickening (27,5% - 135 cases), abnormal uterine bleeding (18,1% - 89 cases), abnormal postmenopausal uterine bleeding (15,3% - 75 cases) and other indications (6,5% - 32 cases). In 121 cases, patients were referred for more than one reason. The procedure that was most frequently performed was polypectomy (86,6% - 425 cases), with myomectomy being much less frequent (9,4% - 46 cases). IUD removal (5,3% - 26 cases) and other procedures such as lysis of synechiae (2,6% - 13 cases) were also performed. Biopsies were also performed in 19 cases (3,8%). The largest mass removed had 10 centimeters. Average surgical time was 28 minutes and local hysteroscopic anesthesia was performed in 7 women (1.4% of cases). Complications were reported only in 1 case in which cervical hemorrhage occurred after endocervical polypectomy, and it was solved with bipolar electrocoagulation.

Conclusions

Office operative hysteroscopy is currently an important form of uterine intracavitary pathology treatment in our hospital, with an average of 210 hysteroscopies per year. It allows adequate treatment with few complications and is associated with lower morbidity and lower hospital costs, once it avoids the need for hospitalization.

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Hysteroscopic metroplasty to treat repeat miscarriage in a sub septate uterus

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Background

Sub-septate uterus is a congenital uterine anomaly (CUA). CUA is present in 1-10% of the unselected population and 2-8% infertile women and 5-30% women with a repeat miscarriage. 29.4% of these repeat miscarriages are due to subseptate uterus. Hysteroscopic metroplasty improves the live birth rate upto 70% and with no abdominal approach, patient morbidity and need of Caesarean section will significantly reduce.

This is a case presentation where appropriate imaging and surgical interventions were used to manage recurrent miscarriage followed by a successful pregnancy.

Methods

A 31 year old fit and well lady was found to have a sub-septate uterus involving the endometrial cavity (no cervical or vaginal septum) by a transvaginal ultrasound after her second 1st trimester pregnancy loss. Later on an MRI confirmed the diagnosis. She was counselled to have a hysteroscopic resection but it was cancelled as she was pregnant for the third time. After the third 1st trimester pregnancy loss, she had a successful hysteroscopic metroplasty without any complications. As preterm labour (RR 2.14), mostly due to cervical shortening is prevalent with CUA, she had multiple cervical length scans planned at 14,16,18 weeks. Her cervical length was 14.22 mm on 16 week scan and she had an emergency cerclage was placed and electively removed at 36+3 weeks.

Results

The lady continued to have a successful full term pregnancy and gave birth to a healthy infant via vaginal delivery.

Conclusions

There is no strong evidence as in a guideline to suggest uterine septum resection to treat repeat miscarriage but the consensus in the reproductive medicine faculty strongly suggests it.

Surgical removal of the septum (metroplasty) is usually considered for women who have a septate uterus and repeated adverse reproductive outcomes, including miscarriage and preterm delivery. Metroplasty has also been used to manage primary infertility but the causal relationship between this problem and the presence of a uterine septum is less clear.

Surgery was traditionally done by a transabdominal approach. A hysteroscopic approach aims to reduce morbidity and shorten the recovery period. Unlike transabdominal metroplasty, caesarean section is not mandatory for patients who conceive after hysteroscopic metroplasty.

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The use of diode laser for office hysteroscopic polypectomy: our experience

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Background

Our aim is to evaluate the benefits of minimally invasive techniques in hysteroscopy, focusing on the use of diode laser in the treatment of endometrial polyps.

Methods

50 patients with ultrasound diagnosis of endometrial polyp with maximum diameter 2.5 cm were recruited from January to April 2021. The patient was placed in a dorsal lithotomy position, and a 4-mm continuous-flow office hysteroscope (Bettocchi Office Hysteroscope "size 4" Karl Storz, Tuttlingen, Germany) with a 2.9-mm rod lens optic was introduced into the cervical canal using the vaginoscopic approach, with no speculum and tenaculum, in an office setting, with no anesthesia or sedation.

We used a new Dual wavelengths Laser System (Leonardo® Dual 45, Biolitec, Germany). This highly compact diode laser features the combination of two wavelengths, 980nm and 1470 nm, giving a contemporary absorption in H₂O and hemoglobin (Hb) with an excellent ability of hemostasis, cutting, and vaporization.

We collected data of the operative time and pain assessment was analyzed with VAS score. Polyp resection was performed with diode laser featuring the combination of two wavelengths, 980nm and 1470 nm. The procedure was carried out without anesthesia and antibiotic prophylaxis was not administered.

Results

Operating time was $7 \pm 1,05$ min. Blood loss during the procedure was minimal. There were no intraoperative complications. Intraoperative pain was $2,72 \pm 0,51$. No postoperative complications were observed

Conclusions

Office hysteroscopic polypectomy can be successfully performed using a diode laser. It could be a feasible and safe alternative to the scissor, bipolar twizzle and resectoscope techniques. Further well-designed studies are necessary, however, to explore the feasibility and reproducibility of the technique by other authors.

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One year review of negative emergency laparoscopy (NEL) in Gynaecology at a UK Teaching Hospital

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Background

Emergency laparoscopy in gynaecology mainly comprises of laparoscopy for suspected ectopic pregnancy (EP), ovarian cyst accident (torsion, rupture) or tubo-ovarian/pelvic abscess (TOA).

To the best of our knowledge there are no published standards, research or guidelines on negative laparoscopy in gynaecology.

Methods

All emergency laparoscopic cases in benign gynaecology from 1st January to 31st December 2019 were identified and analysed. We reviewed several variables; some of which are outside the scope of this abstract.

We defined negative laparoscopy when the findings at laparoscopy did not correlate with the suspected pathology.

We reviewed the laparoscopies undertaken in order to assess our practice and create a benchmark for future audit.

Results

A total of 60 emergency laparoscopies were performed. Of those, 55 were for suspected EP, 3 for suspected ovarian cyst accident and 2 for TOA. In all cases the decision for surgery was taken by the on-call consultant; 15 cases, 25%, had a negative laparoscopy.

We performed 2 laparoscopies for TOA with no negative cases; the decision was supported by the ultrasound scan (USS) findings and lack of clinical response to medical treatment.

We performed 3 laparoscopies for suspected ovarian accident, with 2 (67%) negative cases; the decision was based on analgesia requirement and clinical condition in the presence of compatible USS findings.

Out of the 55 laparoscopies for EP, 13 (24%) were negative. This group can be further divided in two based upon USS impression which heavily influenced the decision for surgery. Of those cases with USS suggestive of EP, 3 had a negative laparoscopy (9%). Interestingly 1 case had an ipsilateral pelvic kidney, whilst the other 2 had ipsilateral corpus luteal cysts. Of those cases with USS suggestive of pregnancy of unknown location (PUL), 10 went on to have a negative laparoscopy (59%) and, the decision was highly influenced by HCG levels.

There were no operative complications in the negative laparoscopies.

Conclusions

In our unit NEL represented 25% of cases. Suspected TOA were not associated with NEL. Laparoscopy for ovarian accident is highly influenced by the clinical presentation and analgesia requirement which led to high incidence of NEL (66%). Emergency laparoscopy for EP was associated with 9% of NEL. Emergency laparoscopy for PUL was associated with NEL in 58.8% of cases. The incidence of NEL in cases of PUL was higher than expected and this highlights room for improvement.

This is the first retrospective study of its type. Our findings constitute a benchmark for Birmingham City Hospital, and perhaps for the many other gynaecological departments.

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Eight steps for total laparoscopic hysterectomy in a caesarean scar pregnancy – a case report

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Background

The prevalence of caesarean scar pregnancy is rising by the increased rate of caesarean sections world wide. Caesarean scar pregnancy is a form of heterotope pregnancy and is located in the anterior wall of the uterus. The sonographic assessment shows an empty uterus cave and gestational sac with reduced myometrium located in the caesarean scar close to the bladder. Caesarean scar pregnancy can cause high maternal morbidity and mortality by hemorrhage and uterine rupture. Thus, safe treatment options are necessary.

Methods

We present a case report about a 35-year old patient (VI gravida/III para), who had a caesarean scar pregnancy in the 9.2 pregnancy week after three caesarean sections. The diagnosis of caesarean scar pregnancy was confirmed by sonography. We discussed different treatment options like systemic methotrexat infusion, fetal methotrexat injection followed by a hysteroscopy and curettage, laparoscopic excision and hysterectomy. The patient's family planning was completed and she decided for hysterectomy with bilateral salpingectomy.

Results

Before surgery, four erythrocyte concentrates were ordered in the case of severe hemorrhage during hysterectomy (step 1). The hysterectomy was performed in general anesthesia. An Hohl uterine manipulator was installed without using a spiral thread and a Hegar-type extension, to prevent hemorrhage, cell spilling and embolisation of the uterine contents. The manipulator was fixed by a suture on the cervix (step 2). Because of the previous three caesarean sections, the camera trokar was placed in Palmer's point (step 3). After dissection of adhesions between abdominal wall and bowel, the pelvic situs was visible. The retroperitoneal ureterolysis on both sides was performed to prepare the uterine vessels. The uterine vein and artery were ligated close to the internal iliac vessels on both sides (step 4). This step was followed by the adhesiolysis of the bladder and the anterior uterine wall (step 5). After dissection of the ligamentum rotundum and the ligamentum latum (step 6), the uterine vessels were ligated close to the uterus (step 7). The uterus with both fallopian tubes was removed over the vagina and a laparoscopic suture was performed (step 8). The uterus weighted 200 g and blood loss was minimal (50 ml). The postoperative hemoglobin level was 9,9 g/dl. The patient left the hospital three days after surgery in a good status.

Conclusions

Total laparoscopic hysterectomy is an appropriate and safe treatment option for patients with caesarean scar pregnancy and completed family planning. To prevent severe hemorrhage, double uterine ligation and fixation of the uterine manipulator by suture should be performed.

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The importance of the umbilicus – from Renaissance ideal to surgical reality

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Background

The Renaissance was an intellectual movement, which began in Tuscany in the Late Medieval period and spread to the rest of Europe, constituting the outset of modern Western arts and sciences. Outstanding personalities, like Leonardo da Vinci (1452-1519) or Michelangelo Buonarroti (1475-1564) represented a strictly scientific approach to the human body by performing anatomical dissections. The interest in better understanding of the body was cultivated also in Northern Europe by prominent artists (e.g. Albrecht Dürer, 1471-1528) and scientists (e.g. Andreas Vesalius, 1514-1564), who combined in their studies artistic perfection with scientific precision. Typically of the scholarly attitude and the intended geometrical perfection, the Renaissance humanists were interested in recognizing rules, ratios and proportions within the divine blueprint of the human body. The interest in geometric formulas underlied numerous famous Renaissance (figurative and non-figurative) paintings. The probably most known attempt to objectively reflect the human body's proportions was Leonardo's "Vitruvian Man".

Methods

Iconographic analysis (paintings of the Quattrocento and Cinquecento) and search of scientific databases (PubMed, Google Scholar, Researchgate, publishers databases).

Results

The umbilicus was – and remains to this day – the central point of reference in - both empirical and theoretical - models of an ideal human body. Fortunately, although the polymaths of the Quattrocento were lively attracted to "divine proportions", their art works depicted a realistic diversity of umbilical shapes and locations. From anatomical and surgical point of view, the umbilicus is a remnant from the embryological period and one of the landmarks within the abdominal wall. In the last few decades, the umbilicus radically gained in importance as the gateway to the abdominal cavity used in conventional and robotic-assisted laparoscopic surgery. Unfortunately, some medical textbooks or papers describe – five centuries after groundbreaking Renaissance explorations - the position of umbilicus in an almost unchangeable and unrealistic way, with constant distances to bony landmarks or great vessels. Unlike in plastic surgery, where the determination (or even mathematical formulas) can help to achieve an aesthetically pleasing umbilicus position by means of reconstructive surgery, the ideas of an "average" or "ideal" navel location can be misleading or even dangerous in regard to the laparoscopic entry. Based on comparative analysis of figurative paintings of the Renaissance as well as on meticulous analysis of the contemporary anatomical and surgical literature we provide information about the diversity of anatomical relationship of the umbilicus to the anatomical structures and abdominal wall relief. We summarize the evidence about varying navel positions depending on age, body mass index, medical history or ethnicity.

Conclusions

The awareness of anatomical umbilical variations can be helpful in preventing entry-related complications in gynaecological laparoscopy.

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Struma Ovarii: mini review from a case report

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Background

Struma ovarii (SO) is a rare tumor defined as a mature ovarian teratoma that contains the 50% or more of thyroid tissue; it represents approximately the 5% of all ovarian teratomas, and are mostly benign. Malignant transformation occurs in less than 5% of all cases, and less than 5-6% could lead to metastatic disease. Most of the patients are euthyroid and asymptomatic, the others have abdominal distension and pain, urinary disorders, intestinal obstruction, menstrual disorders, infertility and symptoms related to thyroid disorders.

Methods

We introduce a 45-year-old patient with pelvic pain and with a 78 x 81 mm multilocular cyst with a 17x12 mm rounded papillary projection in one of the locules. She associates an elevation of Ca 19.9 of 60 IU/ mL and a high-risk ROMA algorithm, with the rest of the markers and thyrotropin levels in normal values. A left salpingo-oophorectomy was performed with extemporaneous pathological examination by laparoscopic approach. The study revealed a monomorphic cystic teratoma: struma ovarii.

Results

To be able to make an optimal diagnosis and avoid an aggressive surgical procedure, it is important to know its representation in imaging tests. In ultrasound it can be suspected when there is a multilocular-solid ovarian mass with "struma pearls": well-defined and rounded areas of eco-dense solid tissue with vascularization and a smooth surface that, compared with histological sections, are identified as thyroid tissue. By magnetic resonance imaging (MRI), we will see a complex mass with multiple cysts hyperintense on T1/ very hypointense on T2 sequences. With the scintigraphy (with I123 or I131) and with the SPECT we will see an accumulation of the tracer in areas of active thyroid tissue. We also can measure thyroglobulin levels and tumor markers, which are usually negative.

The treatment in cases of benign struma ovarii is the laparoscopic salpingo-oophorectomy. In cases of malignancy the treatment is the same as for other ovarian epithelial cancers, associated to radioiodine therapy.

Conclusions

Benign struma ovarii is a rare tumor whose imaging characteristics lead to a differential diagnosis with ovarian neoplasia. The definitive diagnosis is only established by histological study. The complexity of the filiation before the surgery plays a main role in choosing the appropriate surgical technique.

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Successful outpatient endometrial ablation in a premenopausal lady on anticoagulation for pulmonary embolism requiring multiple admissions for blood transfusion

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Background

Endometrial Ablation is a reasonable treatment option in women with menorrhagia who have completed their family. Various techniques and operating systems are available for endometrial ablation. First generation ablation involves resectoscopic electrosurgical instruments while second generation ablation involves disposable devices inserted into the uterine cavity that deliver energy uniformly to destroy the endometrial lining. This can be achieved using heated fluid such as glycine within a balloon (thermal balloon ablation eg. LiNA Librata®) or bipolar radiofrequency (eg NovaSure®, Hologic).

Management of menorrhagia is more complicated in patients on anticoagulants. This is a case of a 47 year old lady on anticoagulants for previous pulmonary embolus who suffered from intractable menorrhagia requiring multiple blood transfusions.

Methods

The case: in regards to the pulmonary embolus, the patient developed pulmonary hypertension and underwent pulmonary endarterectomy procedures twice. She was initially on warfarin and subsequently switched to rivaroxaban. Over the years, she had exhausted all hormonal options for the management of menorrhagia including the progestogen subdermal implant (Implanon®), oral desogestrel (Cerazette®), ulipristal acetate (Esmya®), medroxyprogesterone acetate (Provera®) and levonorgestrel intrauterine system (Mirena®). The latter was expelled as she was bleeding heavily with clots. During one of her acute admissions, the patient attempted a radiofrequency ablation under sedation but this was unsuccessful. At this time, the pulmonary hypertension and haematology team decided to change her anticoagulant rivaroxaban to apixaban which significantly reduced the bleeding.

Following the failed radiofrequency ablation attempt, a decision was made to proceed with thermal balloon ablation (LiNA Librata®). The procedure was performed in the office setting with a cervical block using Lignospan®, 2% lidocaine with 1 in 80,000 adrenaline. Hysteroscopic findings confirmed a retroverted uterus 9cm depth with a vascular endometrium without active bleeding. A five-cycle procedure occurred in 2 minutes and a repeat hysteroscopy post ablation identified all walls of the uterine cavity ablated. A three month follow up appointment revealed minimal monthly spotting.

Results

This is a rare case of a successful outpatient office thermal balloon ablation to manage menorrhagia in a lady on continuous anticoagulation due to complex medical history. This has avoided a more invasive surgical procedure such as hysterectomy with potential significant anaesthetic risks.

Conclusions

The case highlights the use of an alternative endometrial ablation technique, in this case thermal balloon ablation after a previous second generation radiofrequency ablation failed. Finally, the case demonstrates the importance of multidisciplinary collaboration for the management of complex medical patients. The change from rivaroxaban to apixaban reduced bleeding which improved hysteroscopic views and potentially contributed to the success of thermal balloon ablation.

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The use of hysteroscope to remove a retained compress in patient without uterus

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Background

The hysteroscope is a materiel that we use for examination of the uterus cavity, but we can benefit from it for another management such as a retained compress.

Methods

We present a case of 68 years old who underwent a prolapse repair by vaginal root and benefited from Richter procedure (spino-fixation), hysterectomy and bladder support but unfortunately a compress was retained and diagnosis was set up 24 hours after the surgery by CT-scan witch mentioned it localisation between bladder and rectum.

We decide to remove the retained compress during the vaginoscopy by using the hysteroscope under spinal anaesthesia.

We used the rigid hysteroscope with a 2.9 mm telescope 30°, inner and outer sheaths.

We explored the spaces between rectum and vagina through stitches without cutting them using dilatation by saline serum. By the same way we explored the anterior compartment between bladder and vagina through stitches and finally we found it under the bladder between stitches.

We retrieved the compress by using the semirigid grasping forceps introduced in 5 Fr channel.

Results

A retained compress is an adverse event after surgery therefore it can cause complications and luckily it wasn't the case of our patient who underwent Ct scan few hours after the surgery.

The use of hysteroscope was a good idea in such circumstances and it allowed us to remove the compress easily without cutting stitches.

We could avoid a large excision of vagina and remove the compress after the visualisation helped by the magnification of the image through the endoscope.

Conclusions

The hysteroscope could be a useful tool in unusual circumstances.

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Ovarian hyperstimulation syndrome in a spontaneous pregnancy leading to acute renal failure

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Background

The ovarian hyperstimulation syndrome (OHSS) is a serious complication in fertility treatment. In spontaneously conceived pregnancies OHSS is extremely rare. Little knowledge of the possibility during a spontaneously OHSS can lead to misdiagnosis and even wrong treatment and surgery. The following abstract presents a rare case of spontaneous OHSS in the first pregnancy of a 30 year old patient.

Methods

The case report is based on the clinical and laboratory data of the described patient. Literature review was performed.

Results

The 30 year old patient was firstly admitted to the department of internal medicine with acute renal failure and severe extrarenal hyponatremia. Several days before she experienced nausea, vomiting and increasing of the belly. Renal failure and hyponatremia were treated with conservative methods and soon improved and patient was transferred to gynaecological department for further treatment. Big cystic tumors originating from both ovaries and elevated Beta-HCG count (178692 IU/l) could be shown. At first, MR scans strengthened the assumption of a beta-HCG producing ovarian tumor accompanied by massive ascites. As vaginal sonography was performed for further clarification an intrauterine pregnancy presented. So diagnosis of OHSS in spontaneous pregnancy was made. The patient stabilized under conservative therapy appropriate for OHSS and decreasing levels of beta-HCG. TSH levels were normal. A screening during the first trimester was performed without pathological findings

Conclusions

As an OHSS in spontaneous pregnancy is a rare condition, delay in diagnosis and wrong diagnosis can lead to severe complications such as renal failure or thrombosis and wrong treatment with surgical interventions.

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Early integration of laparoscopic training at the medical student and resident level to improve long-term quality of minimally-invasive surgical skills

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Background

Surgical training is an important part of gynaecological residency but widely reserved to experienced residents or medical specialists. Building surgical expertise takes years of intensive training. Hands on exercises with laparoscopic trainers are mostly available as weekend courses only. Demanding work requirements and lengthy training leads to decreasing applicants in gynaecology and other surgical fields. Objective is to reflect on laparoscopic training for medical students and young practicing physicians and give an example of a clinical program addressing all stages of medical education in order to increase interest in surgery and facilitate surgical training.

Methods

The share of surgical training during medical studies, the residency and the extent of extracurricular activities in our department are reviewed

Results

In order to improve surgical training a step-by-step approach is suggested for different stages of medical education. Ideal set up for such a training would be a training area containing laparoscopic and hysteroscopic trainers. Medical students practice early skills of assisting laparoscopic surgery (steady camera movement, grabbing) as part of the curriculum. Extended practice can be offered. Young residents deepen the skills of step 1 as first assistant during laparoscopic surgery and during supervision of medical students. Next they learn necessary techniques for step 3 in which residents perform surgical procedures themselves within experienced supervision. Steady practice and teaching experience with medical students or other residents helps improve their skills.

Conclusions

A laparoscopic training should follow the colloquial saying „see one – do one – teach one“ and start in early days of the clinical part of medical studies to maintain high quality and safety during surgical procedures and increase the interest of young colleagues in surgical fields.

<https://esge.covr.be/cmdocumentmanagement/conferencemanager/documents/api/getdocument/5538/cmabstsms/0000188150/01196485546876c597f6576ab8a08624e3b266bfec98970efec0c06e2eb07010>

Huge pyometra in a postmenopausal age - case report

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Background

Pyometra is an uncommon condition that has a reported incidence less than 1%. Its incidence increases with age. 22% of the cases are associated with malignancy, 4% with genital tract abnormality and 74% were idiopathic.

Pyometra may present as purulent vaginal discharge and lower abdominal pain. Treatment of choice is dilatation of the cervix and drainage of pus under adequate antibiotic cover.

Methods

We present a case of a pyometra managed successfully by medical treatment.

Results

A 49-year-old Caucasian female was referred to our emergency room with abdominal pain since 1 week and irritating vaginal discharge since months. No bowel dejections since 4 days. No urinary complaints.

Her surgical history was appendectomy. Her obstetric history revealed presence of two spontaneous vaginal deliveries and menopause at the age of 45 years.

On physical examination, cervix was flushed with vaginal walls with stenotic cervicalos that was not visible with foul smelling pus oozing out from the uterus. Ultrasonography showed enlarged uterus with longitudinal length of 160 mm with fluid collection with echic shadows in the cavity suggestive of pyometra (109x68mm). Adjacent ovaries to the posterior uterine wall with multiloculated lesions.

The cervix was dilated with Hegar candle (number 3 and 4) with drainage purulent and yellow content, airy, with a foul smell, in abundant quantity. The ultrasound after the procedure: uterus with longitudinal length of 118 mm, endometrium with 12 mm, apparently virtual cavity. No free fluid is visualized within the pouch of Douglas. Leukocytosis and elevated C-reactive protein and hemocultures were negative. Empirical treatment was initiated with antibiotics: ceftriaxone, doxycycline and metronidazole. *Peptostreptococcus anaerobius* and *Prevotella intermedia* were isolated from a pus collection.

Conclusions

The diagnosis of pyometra is difficult unless suspected and specifically looked for. Once diagnosed, a careful history and a detailed pelvic examination should be performed to rule out associated malignancies. Early treatment is necessary to reduce the complications of pyometra.

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Primary umbilical endometriosis in a patient with prior umbilical hernia repair during early childhood

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Background

Umbilical endometriosis is the most common site of cutaneous endometriosis, and accounts for 0.4-4% of all endometriosis. Primary cutaneous umbilical endometriosis is rare, and its pathogenesis remains controversial. However, secondary endometriosis is caused by iatrogenic implantation of endometriotic tissue, typically following surgical procedures. We present the clinical case of a woman with umbilical endometriosis and history of prior umbilical hernia repair during early childhood.

Methods

A 35-year-old woman presented for evaluation of an umbilical nodule. At physical examination the patient had a livid, soft and cyclic painful swelling in the umbilicus of 3 centimeters (cm), irreducible by digital pressure. Ultrasonography revealed a hypoechoic nodule at the umbilicus of 30x8.3 cm. The magnetic resonance imaging confirmed the suspicion of an endometriotic nodule at the umbilicus and absence of pelvic endometriosis. Under general anesthesia, an en-bloc resection of the nodule was performed. The histological examination described a scarring connective tissue that contained numerous endometrial glands surrounded by endometrial stroma. In the core of the nodule residual suture threads were observed together with foreign-body granulomatous reaction. The margins of the resected nodule were free of endometrial tissue. The postoperative recovery was uneventful and a month after the surgery, the patient referred full remission of the painful sensation and swelling in the umbilicus.

Results

Less than 30% of cutaneous endometriosis present with prior history of surgical procedures. The rationale behind the secondary umbilical endometriosis is the iatrogenic metastasis after a surgical procedure, where endometrial cells implant in scars after surgery. However, these cases are described to happen after menarche, once endometrial shedding and menstrual bleeding begin to occur. The clinical case described herein presented an umbilical nodule, although the surgical procedure was performed at the age of 5 years. In this scenario, two possibilities were considered. First, that the umbilical endometriosis was primary, and even though the patient had previous history of a surgical procedure, the ectopic endometrial tissue raised from a lymphatic or vascular migration, or cellular metaplasia. Second, that the nodule proliferated from a iatrogenic metastasis during the surgery performed at early childhood. This latter scenario poses the possibility of the neonatal bleeding theory. Indeed, it has been described that occult vaginal bleeding occurs in the majority of neonates, and retrograde flux into the peritoneum of endometrial cells could be promoted by the functional plugging of the endocervical canal in neonates.

Conclusions

The exact mechanism involved in the case of umbilical endometriosis presented herein is controversial. The history of a surgical procedure in the early childhood raises the possibility of the neonatal bleeding as a cause for endometriosis in some cases, particularly those with an early onset, or even cases of cutaneous endometriosis when the surgery is performed before menarche.

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Laparoscopic sentinel lymph node sampling as a part of the surgical staging of intermediate and high-intermediate risk endometrial cancer

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Background

Endometrial carcinoma remains one of the most often types of gynaecological malignancies all over the world. The latest work shows that sentinel lymph node (SLN) dissection may be an alternative procedure in patients with intermediate and high-intermediate risk endometrial cancer, especially in patients with severe comorbidity, is associated with a postoperative complication rate decrease.

Methods

Our study includes 44 patients with intermediate and high-intermediate risk endometrial cancer (FIGO stage IB- IIA, grade 2-3 endometrioid adenocarcinomas). Preoperative workup included family history collection, general assessment, clinical examination, a transvaginal ultrasound, or pelvic MRI. Histopathologic tumor type and grade were identified by endometrial biopsy. All patients had severe comorbid pathologies, including cardiac, endocrine, metabolic disorders (hypertension, obesity, diabetes mellitus, thyroid diseases, chronic venous insufficiency, etc.). We hypothesized that SLN biopsy would be preferable to total pelvic lymphadenectomy in these patients. Indocyanine green (ICG) solution was prepared preoperatively by diluting 25 mg ICG powder with 5 ml of sterile water. After performing an initial laparoscopic observation of pelvic and abdominal cavity, we made a submucosal intracervical injection of 1 ml of ICG solution in 4 points: at 1, 5, 7, 11 o'clock. After 15-20 minutes, we visualized pelvic lymph nodes through the peritoneum by near-infrared imaging (D-light P-system®, Karl Storz) and identified SLN on each side. Internal iliac lymph nodes were detected in 18 (40,9%) patients, external – in 12 (27,3 %), common – in 8 (18,2 %). In 6 cases (13,6 %) where we were unable to identify SLN we performed complete pelvic lymphadenectomy (PLE).

Results

Standard treatment included total laparoscopic hysterectomy (TLH) with SLN identification with ICG and biopsy (group 1; n = 36). If we failed to identify SLN (group 2; n = 6), we performed complete pelvic lymphadenectomy (PLE). Operation time was much shorter for TLH with SLN identification (79.5 ± 11.5 minutes) in comparison with patients with SLNI+TLH+PLE (162.8 ± 24.2 minutes). Patients with only TLH+SLN biopsy had a shorter lymphorrhea duration (2-3 days) in the post-operation period compared with patients who had SLNI+TLH+PLE (5-7 days). Although the time of SLNI+TLH+PLE is longer than TLH+PLE without SLN identification, the average operation time for the selected patients was shorter. No cases of lymphedema were detected in the TLH+SLN group against 2 cases in the TLH+TLE group.

Conclusions

Laparoscopic sentinel node sampling by using ICG in surgical staging of intermediate and high-intermediate risk endometrial cancer, especially in patients with severe comorbidities (obesity, cardiac, endocrine, venal disorders), can improve detection and removal of cancer cells, reduce surgical time and postoperative wound-related complications such as lymphorrhea and lymphedema.

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Contraception methods used before laparoscopic bilateral tubal ligation

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Background

Electrocoagulation and bilateral tubal section by laparoscopy is one of the most used surgical techniques in female sterilization.

The technical simplicity and the lower rate of postoperative complications are typical.

We pretend to analyse the contraception methods used by women undergoing electrocoagulation and bilateral tubal section by laparoscopy, at Outpatient Surgery Center.

Methods

Retrospective and observational study that included women who underwent electrocoagulation and bilateral tubal section by laparoscopy, at the Outpatient Surgery Center, between 1 January 2019 and 31 December 2020.

Results

The electrocoagulation and bilateral tubal section were performed in 40 women. The median age is 38,5 years. About 65% (n = 26) of women had two or more children and 33% of women (n = 13) with one child. Only one case of nulliparous woman.

The contraceptive method used immediately before surgery: combined estrogen-progestin oral contraceptive in 43% (n = 17), progestin-only pills in 20% (n = 8), male condom in 13% (n = 5), implant in 10% (n = 4), Copper intrauterine device in 5% (n = 2), levonorgestrel intrauterine device in 3% (n = 1) and withdrawal in 3% (n = 1). No information about the contraceptive method in two cases.

Conclusions

The main contraception method used was combined estrogen-progestin oral contraceptive.

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Three cases of congenital anomalies U2bC2V1 with different reproductive outcomes. Is it cause of infertility?

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Background

Congenital uterine anomalies (CUAs) consist structural disorders of the female genital tract due to abnormal fusion or resorption of the Müllerian ducts. Their prevalence of CUAs is 5.5% in the general population, 8.0% in infertile women and 13.3% in women with a history of miscarriage. We present three cases of women with complex genital tract anomalies (U2bC2V1), including cervical duplication and vaginal septum with different reproductive outcomes.

Methods

Case 1

A 51-year-old G2P1 (vaginal delivery) complaining of severe menorrhagia attributed to multiple leiomyomas referred to our clinic. Pelvic examination revealed an enlarged uterus, small vertical vaginal septum in the upper third of vagina and two external cervical orifices. Complete septate uterus was found during 2D transvaginal ultrasound and confirmed by MRI. Since she had already undergone three myomectomies and after excluding of endometrial pathology by conducting endometrial biopsy, hysterectomy was recommended. Those findings were also confirmed intraoperatively.

Case 2

A 25-year-old G0P0 with a complete septate uterus presented to our institution. The gynaecological examination revealed a longitudinal non-obstructing vaginal septum with a well-formed cervix in the left and a hypoplastic one in the right side. After 2D ultrasound and MRI her congenital anomaly was classified as U2bC2V1. After resection of the vaginal septum, a diagnostic hysteroscopy was performed from both cervical orifices and laparoscopy confirmed normal contour of uterus.

Case 3

A 38-year-old G0P0 infertile woman was admitted to our clinic for fertility counseling. The patient was evaluated by pelvic examination, transvaginal ultrasound (TVUS) and blood test for ovarian reserve. Gynaecological examination revealed a vertical vaginal septum on the left side of vagina with a well-formed cervix in the right side. The left part of the vagina was too small to examine the left cervix. The TVUS revealed 2 normal cervixes and 2 endometrial cavities completely separated by septum. The external contour of the uterus was found normal. After hysterosalpingography we proceed with diagnostic hysteroscopy both of cavities and resection only of vaginal septum.

Results

We presented three cases with complex congenital anomalies with different outcomes.

Conclusions

A complete uterine septum with double "normal" cervix may have a wide spectrum of reproductive outcomes. We advised nulliparous women to complete their evaluation by performing hysteroscopy. It provides reliable information for the anatomical status of the vagina, cervix, uterine cavity and tubal ostia. In cases of infertility or recurrent pregnancy losses, the dilemma is whether or not to proceed with the resection of the uterine septum in combination with resection of vaginal one.

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Rectovaginal endometriotic nodules (deeply infiltrating arising from the Pouch of Douglas and into the posterior fornix) excised laproscopically with vagina opening

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Background

Endometriosis is a clinical entity characterised by the presence of endometrial tissue implanted in locations other than the uterine cavity. Endometriosis can be either endopelvic or extrapelvic depending on the location of endometrial tissue implantation. Based on the severity of the disease we can classify in 4 stages. In stage 4, deep infiltrating endometriosis occurs and the patients face a complex spectrum of symptoms. The prevalence of the condition is thought to be around 10% but can represent up to 40-50% of cases presenting to gynaecology outpatient services.

Methods

We present the cases of 2 women, nulliparous, with stage 4 endometriosis and deep rectovaginal nodule arising from the Pouch of Douglas and into the posterior fornix. Both of them presented to the endometriosis clinic reporting dysmenorrhea, dyspareunia, lower back pain and occasionally dyschezia during menstruation. Rectovaginal nodule palpated and visualised with vaginoscopy. MRI was negative for bowel infiltration. Both patients had fertility aspirations and opted for surgical management of endometriosis.

Results

Laparoscopy was performed in our British Society for Gynaecological Endoscopy accredited endometriosis centre. Palmer's point entry used and adhesiolysis performed between the sigmoid colon and pelvic side wall. Medial pararectal space dissected with ureterolysis. Inferior hypogastric plexus identified and preserved. Rectovaginal nodule excised laparoscopically but due to the infiltration to the vagina, vagina opened and nodule removed through the vaginal defect. Vagina closed with vicryl 2-0 laparoscopically. Vaginal artery identified and sealed prior to the excision of the nodule. Both patients were followed-up in the endometriosis clinic and pelvic pain questionnaires were completed 6, 12 and 24 months post laparoscopy. They had a significant improvement in their quality of life and less pain symptoms. The first one fell pregnant spontaneously 21 months after laparoscopy and had an uncomplicated normal vaginal delivery. The second patient fell pregnant spontaneously after 3 years and had a caesarian section delivery due to breech presentation of the foetus, followed by a second spontaneous pregnancy 3 years after the first.

Conclusions

All patients with endometriosis should be referred to the expert gynaecology doctors who deal with advanced laparoscopic techniques. It is fundamental to establish a process to all the gynaecology departments to treat patients with endometriosis according to the national guidelines. An accredited endometriosis centre can treat and follow-up the patients and address their priorities. We should reduce the time to get a diagnosis of endometriosis which takes an average of 7.5 years at present and enable women to receive appropriate treatment and tackle infertility issues.

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Hysterectomy by transvaginal natural orifice transluminal endoscopic surgery (vNOTES) versus laparoscopy - a systematic review

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Background

We aimed to report an update of the systematic review in order to compare vaginally-assisted natural orifice endoscopic transluminal endoscopic surgery (vNOTES) hysterectomy with standard laparoscopic surgery.

Methods

We searched MEDLINE, PUBMED studies that allowed comparison between vNOTES vs laparoscopic hysterectomy for benign indications.

Results

Compared to conventional laparoscopy, vNOTES has the same effectiveness to successfully remove the uterus in selected cases.

Hysterectomy by vNOTES has advantages over traditional laparoscopic and vaginal hysterectomy that include reduced requirement for intra-abdominal insufflation and reduced Trendelenburg position, absence of trocar related injuries and easier operative access in patients with morbid obesity, or previous abdominal surgery such as midline laparotomy or mesh hernia repair.

Limited data suggest that vNOTES hysterectomy may have shorter operation time, reduced estimated blood loss or transfusion rates, low complication rates, minimal post-surgical pain, fast recovery, short hospitalization and also cosmetic advantages compared with laparoscopic hysterectomy, but further study is needed.

Conclusions

Advances in technology have improved the feasibility of vNOTES as a treatment option for gynaecologic surgeries. When the technical limitations are overcome, vNOTES may offer better outcomes than a conventional laparoscopy in selected cases. However, further randomised controlled trials with larger sample sizes should be conducted in order to clarify the application of the techniques in gynaecologic surgeries.

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Intestinal complications after gynaecological laparoscopic interventions

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Background

The aim of this study was to determine reliable predictive parameters for the occurrence of intestinal complications in laparoscopic gynaecological interventions.

Methods

All patients who underwent laparoscopic interventions at the Department of Gynaecology, Obstetrics and Reproductive Medicine, Saarland University Hospital between September 2013 and September 2017 were identified retrospectively using a prospectively compiled clinical database. Discriminative ability of different parameters (white blood cell count, CRP value) was assessed using Receiver Operating Characteristic (ROC) analysis.

Results

Data from 3351 patients were included in the final analysis. 18 patients (0.5%) were suspected of suffering from intestinal complications postoperatively, in 14 of those patients (77.8%) an intestinal lesion was confirmed during second surgery. The median time interval between primary and revision surgery were 3.5 days (1-15 days). In eight (44.4%) cases a small intestine injury was registered, whereas colon injuries appeared in ten (55.6%) cases. Of the 14 patients being diagnosed with a bowel lesion during revision surgery, seven (50%) presented with acute abdomen, seven (50%) had undergone CT scan before the second surgery, nine (64.3%) showed a peritonitis in revision surgery. Of the four patients not being diagnosed with an intestinal lesion during revision surgery, three (75%) suffered from acute abdomen, one (25%) had undergone CT scan and one patient (25%) had signs of peritonitis in revision surgery. These differences did not reach any statistical significance ($p=0.38$; $p=0.16$).

We are in the process of analyzing CRP levels and white blood cell count eight hours, 24 hours, 48 hours and 72 hours postoperatively, in the group of patients with intestinal lesions and a comparison group of asymptomatic patients which did not require revision surgery respectively. In addition, we are planning to determine the discriminative ability of CRP values and white blood cell count in predicting the occurrence of bowel lesions and to find cut-off values with a high probability of an intestinal lesion.

Conclusions

In this large retrospective analysis, we observed a generally low incidence of intestinal complications. However, it is of great importance to detect intestinal lesions early in order to prevent additional complications. With the present study, we are aiming to calculate cut-off values at which a high probability of an intestinal lesion is given and to determine predictive parameters for the occurrence of intestinal complications. This might help to optimize the postoperative management and diagnostics for bowel lesions after laparoscopic surgery.

This research project was registered in the German Register of Clinical Studies (no. DRKS00013790, 2018).

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A retrospective study of the management of endometrial cancer in a district hospital

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Background

Endometrial cancer is the fourth most common in women in the UK and the incidence has increased by over 50% since 1990s due to ageing population and growing prevalence of obesity. The survival rate in stage I is approximately 85% therefore early detection is paramount for a better outcome.

Barnsley Hospital is in the South Yorkshire region and women with low grade endometrial cancer (Grade 1-2) can be managed in Cancer Units e. g. District Hospitals while Cancer Centres manage high grade endometrial cancer (Grade 3) and advanced cases.

Most women are offered hysterectomy, bilateral salpingoophorectomy and peritoneal washings. Laparoscopy is the benchmark approach as per National Institute of Clinical Excellence (NICE) guidance. Furthermore, each patient diagnosed with cancer will have a holistic approach in their management including a specialist team, a key worker and their general practitioner (GP) involved in their care. Their treatment also follows a specific time frame.

The aim of this study was to compare our local hospital practice against the regional protocol and the British Gynaecological Cancers Society (BGCS) guidelines.

Methods

102 patients were included in the study between January 2017 and December 2020. All women has a retrospective case notes assessment. The audit parameters followed the regional guidance and included: patients demographics and symptoms, investigations required, multidisciplinary team (MDT) involvement, type of treatment specific to each case, outcome of the treatment including complications, delays in management, long term management after surgery to assess the risk of recurrence, key worker's and GP's involvement.

Results

92% of women who were diagnosed with endometrial cancer were postmenopausal and 62% were obese or morbidly obese. 97% of women had ultrasound as first line investigation and 89% had an endometrial biopsy following abnormal scan findings. All patients were discussed at the MDT meeting. 82% of the patients had low grade cancer on biopsy and 80% of all patients were managed in our unit. 95% were offered surgery as a first line of management and 91% were managed laparoscopically. The rate of significant complications was low and less than 0.05%. Stage I of the disease was found in 87.5% of cases. The key worker and the GP were involved in the patient's care in 95% of cases. 70% of patients had follow up locally after the treatment. The recurrence was less than 1% and the commonest site was the vaginal vault. Raised BMI, grading and staging were among the risk factors for recurrence.

Conclusions

The management of early stages of endometrial cancer is a safe option for the patients in our hospital and it follows the regional and national guidance. This is the result of a robust pathway, which covers all the aspects of the patients care.

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The primary epiploic appendagitis in early pregnancy: a clinical and surgical challenge

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Background

Primary epiploic appendagitis (PEA) is a rare and usually self-limiting acute abdominal condition lacking pathognomonic signs and symptoms. The underlying pathology is largely either inflammatory or ischaemic² in nature, therefore signs and symptoms often overlap with more common acute abdominal presentations, such as appendicitis, ovarian torsion, and diverticulitis¹. Abdominal X-ray computed tomography (CT) is typically the first-line imaging modality to determine diagnosis, however in the pregnant patient, ionising radiation is largely avoided, therefore diagnosis and treatment are often delayed.

We present a rare case of PEA in early pregnancy during which a heterotopic pregnancy could not be excluded following ultrasound scan, and due to clinically deteriorating picture, the patient underwent laparoscopy where PEA was diagnosed.

This case highlights the importance of considering all possibilities and differential diagnoses when a patient presents with atypical symptoms, particularly in pregnancy.

Methods

A 28-year-old woman presented to the Emergency Department at 9 weeks gestation with acute left-sided abdominal pain. On examination, generalised abdominal tenderness was noted with rebound tenderness elicited in the left iliac fossa.

Results

Initial blood investigations were performed, including Full Blood Count, CRP, Urea and Electrolytes— all within normal range including inflammatory markers. Transabdominal ultrasound scan revealed a viable intrauterine pregnancy with an echogenic area noted in the left adnexa, no free fluid was seen in the Pouch of Douglas. Given the history, investigations thus far and a clinically deteriorating picture, the possibility of heterotopic pregnancy could not be excluded and the patient underwent laparoscopy where PEA was diagnosed and inflamed appendage excised. The patient recovered well following surgery and subsequently was discharged home.

Conclusions

Due to the scarcity of this diagnosis, there is a lack of clinical guidelines. It is therefore important to report cases such as these, in order to improve clinical management for future patients, particularly those who are pregnant.

Where appropriate, it is important to weigh up the risk versus benefit of surgery in the pregnant patient, and not to avoid surgery solely due to concern regarding miscarriage.

Where conservative management is considered, the use of further imaging modalities should be utilised in order to make a definitive diagnosis.

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The use of bowel retractors in laparoscopic surgery: a single unit review

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Background

Laparoscopic surgery has benefited from many new surgical innovations and instruments to facilitate the ergonomics of surgery as well as minimise operative time and operator strain. Common factors that increase surgical challenge and operating time is ensuring the safety of adjacent organs when using energy devices. In particular the bowel is of major concern and can actively obstruct surgical views. Many devices have recently entered the surgical market but the fan retractor has been used by the Oncology team in University Hospitals Birmingham.

Methods

We have analysed surgical practice with the bowel fan retractor selectively used in challenging cases. This has been found to be of great benefit to allow the operating surgeon to maintain a safe surgical view and allow confidence in use of energy devices in operative laparoscopy. Other techniques such as using a blunt instrument to assist, holding the mesentery and increased use of anaesthetic muscle relaxant is associated with increased morbidity.

Results

The introduction of this instrument to our unit has shown reduction in operating time, increased safety and confidence in surgery with challenging cases and overall cost-effectiveness.

Conclusions

The innovation of new devices is beneficial to the field of laparoscopy where this is more use of energy devices. With a great focus on laparoscopic training it is imperative that the use of such instruments is introduced at the training stage for doctors to allow effective use in later surgical practice.

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Case report on a Da Vinci assisted myomectomy on a patient planning to conceive

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Background

Loss of pregnancy is one of the traumatic events in the life of one woman. One of the major causes is the uterus myomatosis. Myomectomy has near usual operative risks, special risks like major bleeding, intraoperative hysterectomy and postoperative uterine rupture during pregnancy. The robotic surgery is a method for reduction of this typical risk.

Methods

Case presentation

Case material: Introduction of a female patient whose 897 grams fibroid was successfully removed using above-mentioned technology, including complete reconstruction of the uterus.

Literature:

O37 Abstract 6th Annual SERGS Meeting

Oral Presentation Brussels 2014

Personal experience of the surgeon since 2010

Results

Pre-, intra- and postoperative evolution of the case.

Conclusions

Demonstration of the robotic myomectomy technique; followed by advantages and disadvantages of the technique; concluding with a short personal statement by a surgeon with the experience of over 120 robotic (successful) gynaecological procedures from one of the biggest urological robotic centers (Prostate Center Northwest PZNW).

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The application of the myosure hysteroscopy morcellation in conservative management of endometrial cancer: a case review

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Background

Myosure hysteroscopy is an efficient device in removing the endometrial pathology allowing the procedure to be done in the outpatient setting. It is not licensed so far to remove endometrial cancer. There are reports of hysteroscopic resection of endometrial cancer as a conservative management in cases not fit for surgical staging. This is a case of a successful conservative management of endometrial cancer of now a 96-year lady using repeated sessions of Myosure hysteroscopic resection under local anaesthesia in the outpatient setting.

Methods

This is a case of a frail elderly lady diagnosed with grade 2 endometrial cancer at the age of 92 after recurrent episodes of postmenopausal bleeding. Past history included one vaginal delivery, hypertension, and previous mastectomy for breast cancer. Her case was discussed after imaging included MRI and she was offered standard surgical treatment, but anaesthetic assessment indicated that this had 20% mortality. Radiotherapy and high dose progestins were declined. She agreed to have Mirena coil after discussion with the oncologist and offered hysteroscopic resection of the endometrial pathology under local. Hysteroscopy was done in the outpatient setting with premedication of NSAIDs, Tramadol, Buscopan, and Cyclizine. Instillagel was applied to the vagina and cervical block was done with Scandonest local infiltration. The procedures were well tolerated with minimal pain and usually it takes 20 minutes in total. Initial hysteroscopy indicated big volume cancer polyps mainly at anterior wall. These were shaved with myosure and two Mirena coils were placed. The procedure was repeated 4 monthly with gradual improvement of the cavity appearance with less tumour volume and tumour regression to hyperplasia together with radiological resolution on MRI. The lady is still under follow up 4 years from diagnosis and there is no reported complication.

Results

The conservative management was well tolerated in the outpatient setting with no fluid overload or bleeding. The tumor was reduced over repeated sessions. The case management was regularly peer reviewed in the multidisciplinary team meetings.

Conclusions

The Myosure proved effective and safe in controlling this endometrial cancer and the associated fluid system helped precisely monitor the fluid balance avoiding overload. The hysteroscopic operative element of the treatment required expertise in the technique and achieving homeostasis and maintaining visibility by gradually increasing the intrauterine pressures. The procedure was done over several sessions two to three times a year rather than aiming for a complete lengthy treatment in one session. This case indicated the potential advantage of the Myosure in conservative management of endometrial cancer where surgery or general anaesthetic carries high risk and in this case two Mirena coils were put to increase the suppression of the endometrium. The management of these cases lies outside the licence of the device, and it should be individualized and peer reviewed.

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Methotrexate as a method for reducing bleeding in patients with ectopic (tubal) pregnancy with a purpose to organ-preserving surgery

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Background

Surgery is the main method of ectopic pregnancy treatment.

Surgical method divides into laparoscopy and laparotomy; organ-preserving and organ-removal surgery.

Laparoscopic 'non-blood' salpingotomy is the best choice in patients with non-realised reproductive potential.

Organ-preserving surgery is impossible because of increased bleeding from salpingostomy and removed ovum bed. It leads to excessive coagulation with further disturbance of anatomical structure and transport function of oviduct ('fragmented oviduct').

The main goal of our work was to evaluate the efficiency of Methotrexate preoperative injection as a method for reducing the bleeding from salpingostomy to perform organ-preserving surgery.

Methods

116 women were observed and treated with the diagnosed tubal ectopic pregnancy.

40 women had never delivered, 10 of them desired to become pregnant.

Each woman was examined by transvaginal ultrasound in sagittal plane, each woman had a general blood and urine analysis, serum B-hCG.

Women were randomized into 3 groups according to clinical and laboratory data:

the 1st group (n=55) – women are clinically stable, abdominal pain is absent or minimal, ultrasound signs of haemoperitoneum are absent or < 150 ml; the 2nd group (n=41) – women demonstrated moderate or intense abdominal pain, free intra-abdominal fluid - 200 - 500 ml; the 3rd group (n=21) – women were examined retrospectively, resemble to 1st group - clinically stable, abdominal pain is absent or minimal, ultrasound signs of haemoperitoneum absent or < 150ml.

Methotrexate was offered to and accepted by 55 women (from the 1st group) and given intravenously - 50 mg/m² before the laparoscopy (24-48-72 hrs). Women from groups 2 and 3 were operated immediately after hospitalization. The data obtained were analyzed by non-parametric analysis of variance ANOVA (Kruskal-Wallis test) followed by a Mann-Whitney test when appropriate. p<0.05 was accepted as defining statistical differences.

Results

We managed to accomplish organ-preserving surgery (salpingostomy) in 50 (90.9%) women from the 1st group (p<0.05 as compared with the groups #2 and #3) and 5 (9.1%) women had tubectomy (p<0.05 pertaining the same data in the groups #2 and #3). This group showed no/minimal bleeding from incisions and minimum time needed for hemostasis. Women from groups #2 and #3 showed increased bleeding from salpingostomy and ovum bed, in some cases - hard-controlled and uncontrolled bleeding. We performed salpingostomy in 11 (26.8%) women from group #2, salpingectomy – 30 women (73.2%). In group 3 (taken respectively) - 15 cases of salpingoectomy (71.4%) and 5 cases (28.6%) of salpingostomy were registered. The surgery time in group #1 was significantly less (p<0.05) as compared with the same index in groups #2 and #3.

Conclusions

Mtx administration in our study reduces bleeding in patients with ectopic (tubal) pregnancy, shortens the surgery time that gives an opportunity to perform organ-preserving surgery.

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ES30-0441 - P082

E-Poster

Estimation of haemoperitoneum in patients with apoplexy ovary

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Background

The volume of haemoperitoneum is the decisive factor for surgical treatment in patients with apoplexy ovary. Provided the stability of hemostasis an organism could absorb 150-200 ml of intra-abdominal blood, so in cases where the volume of haemoperitoneum is less than 200 ml, conservative treatment can be allowed. Whereas laparoscopy enables to accurately (100%) estimate the volume of intra-abdominal bleeding, it is surgical intervention that leads to carboxyperetoneum and can create other risks for patients.

The aim of our study was to identify ultrasound signs that provide an opportunity to estimate the volume of hemoperitoneum in patients with apoplexy without resorting to surgery.

Methods

A single center research group study (Military Hospital of Southern region, Odessa) of 140 women of reproductive age, with apoplexy ovary who were operated with laparoscopic access. Patients were divided into three groups depending on the volume of intra-abdominal bleeding: Group I - 67 women, haemoperitoneum was 200ml and less. Group II- 43 women, haemoperitoneum - 200-500 ml. Group III - 30 women, haemoperitoneum - 500ml and more. Ultrasound was performed with the help of ALOKA-1100 and SA-8000 SE using vaginal sensor with frequency 6.0–7.5 MHz. in sagittal plane. We estimate the volume of haemoperitoneum on echograms by determination of height of fluidlevel relates to uterus. Received echograms were divided into 4 groups depending on the volume of free fluid. We compared data received on echograms and the actual amount of fluid during laparoscopy.

Results

In women with haemoperitoneum up to 200 ml and less on echograms the fluid level did not rise above the internal os of the cervix (type1) In group 2, more than half patients had echograms type 2 - the free fluid level in the middle of the uterus. 2/3 of women with haemoperitoneum 500 ml and more corresponded to type 3echograms (on the level or upper than fundus of uterus) In 25% of women, hyper echoic free fluid was detected in the vesicouterine space and around the ovaries, with corresponded to type 4 echograms.

Conclusions

We recommend using on an ongoing basis a vaginal ultrasound examination in sagittal plane with the estimation of haemoperitoneum as a non - invasive method in case of ovarian apoplexy. It allows to select patients for conservative or surgical treatment.

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