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ABSTRACT BOOK

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CONTENT:

BEST SELECTED ORAL COMMUNICATIONS

1. Perceived effectiveness of endometriosis therapies on fatigue from an international survey

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Introduction. Fatigue affects the majority of people with endometriosis with debilitating effects on daily activities and quality of life. However, current literature often focuses on pain management rather than fatigue. This study aims to better understand the perceived effectiveness of current endometriosis treatments on fatigue.

Methods. An anonymous, international cross-sectional survey was disseminated through social media from April to May, 2023. The survey included the validated Brief Fatigue Inventory and questions related to demographic information. Changes in fatigue symptoms from various endometriosis treatments over the past five years were measured using the Patient's Global Impression of Change scale.

Results. There were 5,241 people who accessed the survey, and 2,907 respondents included in the analysis. Over 12 countries were represented, mostly from the United Kingdom (58%), Ireland (9%), and Australia (6%). Endometriosis was diagnosed surgically in 71%, by imaging in 17%, and based on clinical symptoms in 12%. Fatigue was found to be mild in 12%, moderate in 78%, and severe in 10%. Fatigue was much worse during menstruation and minimally worsened during ovulation. Following spontaneous/surgical-induced menopause, patients reported no change in symptoms. The median response for all analgesia and hormonal treatments was "no change" in fatigue except for GnRH-analogues which "minimally worsened" symptoms. Only laparoscopic excision/ablation and changes in rest patterns had a median response of "minimally improved" fatigue. Behavioral modifications were often rated to have no effect or minimal improvement on fatigue.

Discussion. This study demonstrates that most endometriosis treatment modalities available seem to be ineffective in managing fatigue. Current literature on how current therapies influence fatigue is scarce and further research is needed. Personalised management cannot simply be pain-focused and should consider the holistic needs of the patient.

Keywords: fatigue, endometriosis, brief fatigue inventory, quality of life

2. Endometriosis diagnostic delay and its correlates: The ComPaRe-Endometriosis cohort

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Introduction. An average time to diagnosis of 7 years has been described for endometriosis. Governments' ability to reduce this delay will be based on knowledge of patient characteristics associated with delayed diagnosis. The aim of this study was to investigate the correlates of endometriosis and adenomyosis diagnostic delay in a large sample of patients.

Methods. ComPaRe-Endometriosis is a prospective e-cohort of patients with endometriosis and/or adenomyosis. A total of 6,949 patients were included in the analysis. We used linear regression modeling to evaluate associations between various factors and time to diagnosis, after adjustment for age, socio-demographic factors, year of diagnosis, menarcheal age, comorbidities, body mass index and family history of the disease.

Results. Mean time to endometriosis diagnosis was 10 years (SD=7 years). Diagnostic delay was positively associated with year of diagnosis (+0.5 years, 95%CI=0.41-0.49), unemployment (+0.7 years, 95%CI=0.11-1.26), number of comorbidities (continuous, +0.2 years, 95%CI=0.08-0.27), severe dysmenorrhea in years preceding diagnosis (continuous, numeric-rating scale: +0.8 years, 95%CI=0.63-0.91), number of health professionals consulted before diagnosis (+0.2 years, 95%CI=0.22-0.27), family history of pelvic pain (+1.4 years, 95%CI=0.97-1.75), and a financial position perceived as 'difficult' (+1.44 years, 95%CI=0.79-2.09). In contrast, it was inversely associated with a diagnosis made by a general practitioner vs. gynecologist (-1.2 years, 95%CI=-2.05-(-0.24)), menarcheal age (continuous, -0.6 years, 95%CI=-0.73-(-0.49)), age at symptom onset (-1 year, 95%CI=-1-(-0.99)), and parity (-0.6 years, 95%CI=-1.05-(-0.19)).

Conclusion. These findings highlight several factors associated with diagnostic delay among women with endometriosis and/or adenomyosis. Particular attention to these patient profiles may contribute to improve endometriosis and adenomyosis management.

3. To drain or not to drain: a propensity score analysis of abdominal drainage after colorectal surgery for endometriosis

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Introduction. Prophylactic abdominal drainage (AD) after colorectal surgery for endometriosis is traditionally used for early detection of postoperative complications like abscesses or anastomotic dehiscence. Yet there are no data in the literature to support this theory.

Methods. We conducted a retrospective study of 215 patients who underwent colorectal surgery for endometriosis using a mini-invasive approach in our center from February 2019 to July 2023. A propensity score matched (PSM) analysis (1:1 ratio) identified two groups of patients with similar characteristics. Postoperative outcomes were then compared.

Results. In the unmatched cohort, 151 patients (70%) had AD at the end of surgery and 64 (30%) did not. Clinical characteristics and surgical procedures were comparable between the groups after PSM. After PSM, AD was associated with a longer hospital stay ($p<0.001$) and a greater number of postoperative complications ($p=0.03$). There were no differences for readmission, repeat surgery, or severe postoperative complications.

Conclusion. In this retrospective cohort of patients undergoing colorectal resection for endometriosis using a mini-invasive approach, prophylactic AD was not found to be beneficial.

Keywords. Minimally invasive; Endometriosis; Colorectal surgery; Drainage

4. Understanding Genetics of Adenomyosis in Relation to Endometriosis in Eastern Mediterranean Populations

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Introduction. Endometriosis and adenomyosis display similar clinical features but are distinct conditions. Currently, the difference in underlying genetics is unknown. Genetic studies have evaluated endometriosis without a consideration for adenomyosis and involved mainly European populations. 42 significant loci were identified in genome-wide association studies (GWAS) for endometriosis. Rare adenomyosis GWAS started revealing novel loci for this condition in European populations. This study aims to evaluate adenomyosis in relation to endometriosis in women of non-European ancestry by focusing on Eastern Mediterranean (EM) populations.

Methods. Two datasets, COHERE Initiative from Northern Cyprus and TROX study from Turkey, are included. COHERE is a population based cross-sectional study which recruited 7,646 women, of which 410 are endometriosis patients and genotyped 102 cases and 680 controls. TROX is a clinic-based study that recruited and genotyped 246 endometriosis, 261 adenomyosis patients and 235 controls. All participants completed a questionnaire encompassing the EPHect-EPQ endometriosis questionnaire, quality-of-life tool (SF-36v2) and the pain catastrophizing scale (PCS). The Infinium Global Screening Array-24 BeadChip was utilized for genotyping.

Results. Epidemiological results of COHERE study revealed endometriosis prevalence of 5.4% and 7-year diagnostic delay. Moreover, endometriosis patients suffered more from all types of pain and anxiety conditions compared to controls. Similar epidemiological analyses will be presented for TROX. Initial look-up of established European endometriosis variants in EM populations have shown the allele frequencies of 34/42 SNPs as significantly different. This hints at different genetic architecture of disease in these populations. The novel GWAS results for endometriosis and adenomyosis will be presented from the EM region.

Conclusion. Characterisation of these highly co-morbid conditions is important to better understand their clinical presentations. Conducting gene-mapping illustrated a distinct genetic basis between these conditions. Including non-European ancestry populations will assess whether the variants identified in well-powered European populations are applicable in diverse populations.

Keywords: Endometriosis; adenomyosis; genome-wide association studies

5. Deep Immune Phenotyping Reveals Endometrial Immune Modulation Across The Menstrual Cycle And In Endometriosis-Associated Subfertility

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Background: Endometrium contains numerous innate and adaptive immune cells, either as single cells across the stroma and epithelium or in 'lymphoid aggregates' (LAs). Disruptions in endometrial immunity indicated in endometriosis may lead to endometriosis-associated subfertility (EAS). We aimed to determine if the phenotypic and histological characteristics of adaptive immune cells in the endometrium across the cycle can help us reveal relevant immune modulation in EAS, which could be detrimental to embryo implantation and pregnancy.

Methods: A 35-parameter panel for full spectrum flow cytometry (Cytek®Aurora) was developed to study immune populations in matched endometrial and peripheral blood samples from 20 patients with surgically confirmed endometriosis, of which 4 were diagnosed with EAS, and 8 non-endometriosis controls. Additionally, 3 full-thickness uterine biopsy samples were histologically examined during the different cycle phases with multiplex immune imaging (ZellScannerONE®) to study the spatial organisation of single immune cells and LAs.

Results: We identified novel immune cell phenotypes, activation/regulatory markers, and cytokine receptors across the cycle phase. MAIT-like CD8+ T cells and CD11c-CD14- macrophages were increased, while early endometrial NK cells were decreased in patients with endometriosis compared to controls. Increased regulatory CD4+ T cells and decreased CCR5+ CD8+ T cells and naïve B cells were found in patients with EAS versus fertile endometriosis patients. Systemic changes were observed in patients with endometriosis versus controls but not between EAS and fertile endometriosis patients. Histologically, we explored differences in endometrial and myometrial immunity across the menstrual cycle and between patients and controls.

Conclusions/Discussion: Findings indicate the systemic phenotype of endometriosis, while patients with EAS only show localised immune dysregulation. Qualitative differences in endometrial and myometrial immune populations across menstrual phases and in endometriosis versus controls indicate opportunities for future research to understand potential mechanisms at the foetal-maternal interface impacting embryo implantation and immune tolerance.

Keywords: endometriosis-associated subfertility, endometrial immunity, deep immune phenotyping

6. Robotic-assisted laparoscopy excision of severe form of diaphragmatic endometriosis: a retrospective study on 60 patients.

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Introduction. Surgical management of diaphragmatic endometriosis (DE) remains a debated issue since there is no currently consensus regarding the best operative approach to treat it. In addition, the majority of published studies only refer to laparoscopic technique. The aim of this study is to assess the feasibility, effectiveness and safety of robotic approach in treating severe form of DE.

Methods. Data from 60 consecutive patients undergoing robotic eradication of DE from May 2019 to July 2023 were reviewed. All the procedures were performed by three expert surgeons involved in management of endometriosis.
Preoperative magnetic resonance imaging (MRI) was performed in all patients and the results of each exam was collected. Data about surgical procedures were also recorded and intra- and postoperative complication rate was assessed using Clavien-Dindo classification. Pain assessment was performed with Visual analogic scale (VAS) in all patients, administered before surgery and during follow-up.

Results. At preoperative assessment, MRI detected DE lesions in 29 patients (48.3%) and at intraoperative evaluation the most frequent morphological type of DE lesions were "multiple foci" (88.3%), followed by nodules (65%), spontaneous diaphragmatic perforations (16.7%), and "plaques" (10%). Full thickness diaphragmatic resection was performed in 46 patients (78.5%) while a partial resection and superficial stripping were feasible in 6.7% and 60% of cases, respectively. Median operative time was 79.6 minutes without statistically significative difference according to surgeon who performed surgery ($p>0.05$). Intraoperative and postoperative complications occurred in 1.7% and 6.6% of cases, respectively. Among postoperative complication, diaphragmatic hernia represented the most common one
Median hospital stay was 24 hours. The rate of patients completely recovered from DE symptoms has gradually increased during follow-up reaching 89% after 12 months from surgery.

Conclusion. Robotic surgery is proven to be feasible, effective and safe in treating severe diaphragmatic endometriosis ensuring long lasting benefits.

Keywords: Diaphragmatic endometriosis; robotic surgery; surgical technique

7. The role of fibrosis in endometriosis: a systematic -a review

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Introduction. Fibrosis is an important pathological feature of endometriotic lesions. Myofibroblasts have a central role in the development of fibrosis. These cells derive mainly from epithelial-to-mesenchymal transition and fibroblast-to-myofibroblast transdifferentiation. Myofibroblasts excessively deposit extracellular matrix and have contracting abilities, leading to a stiff micro-environment. Similarities between endometriosis-related fibrosis and other fibrotic diseases indicate that targeting fibrosis could be a potential non-hormonal therapeutic strategy for endometriosis. This review aims to summarize the current knowledge about the role of fibrosis in endometriosis.

Methods. A systematic literature search was performed using search terms for ‘endometriosis’, ‘fibrosis’, ‘myofibroblasts’ and related terms. Original studies were included if they reported about fibrosis and endometriosis. Both in vitro and animal studies, as well as research concerning human subjects were included and divided in three categories for data extraction.

Results. Our search yielded 3441 results, of which 142 studies were included in this review. The observational studies highlighted details about the histologic appearance of fibrosis and the co-occurrence of nerves and immune cells in lesions. The in vitro studies identified several pro-fibrotic pathways in relation to endometriosis. The animal experiments mainly studied potential therapeutic strategies to halt or regress fibrosis. Platelets and Transforming Growth Factor-β have a pivotal role in pro-fibrotic signaling. The presence of nerves and neuropeptides is closely correlated with fibrosis in endometriotic lesions, and is likely a cause of endometriosis-associated pain.

Conclusion. This review shows the central role of fibrosis in endometriosis and its main cellular driver, the myofibroblast. The process of fibrotic development shares characteristics with other fibrotic diseases, so exploring similarities of endometriosis with known processes in diseases like systemic sclerosis is relevant and a promising research strategy to explore new treatment strategies. The close relationship with nerves appears rather unique for endometriosis-related fibrosis and is not observed in other fibrotic diseases.

Keywords. Fibrosis; Myofibroblasts; Transforming Growth Factor-β

BEST SELECTED VIDEO PRESENTATIONS

8. Beyond Pelvic Borders: Slaying Sciatic Endometriosis with Transgluteal Expertise

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Introduction: Endometriosis, affecting 10-15% of women, typically manifests within the pelvis. However, extrapelvic endometriosis causing sacral neuropathy is rare, posing diagnostic and treatment challenges.

Methods: We present a case of a 29-year-old woman with worsening right hip and buttock pain radiating to the leg, leading to gait abnormalities. Clinical assessment and imaging confirmed sciatic nerve endometriosis. A multidisciplinary team conducted the trans-gluteal excision of the sciatic nerve, complemented by laparoscopic exploration and pelvic endometriosis excision.

Results: Postoperative recovery was uneventful, with marked pain reduction and improved gait post-surgery and physiotherapy. On follow up at 15 months post -surgery patient had recovered well and is leading a good quality of life. This case emphasizes endometriosis as a potential cause of cyclical sciatica and underscores the diagnostic utility of magnetic resonance imaging.

Conclusion: Our case demonstrates successful management of extrapelvic sciatic nerve endometriosis by transgluteal approach through a coordinated, multidisciplinary approach. Collaboration among specialists is essential for diagnosing and treating rare endometriosis manifestations, improving patient outcomes. Profound understanding of retroperitoneal neuroanatomy is imperative for success. Swift diagnosis and timely intervention, coupled with rigorous post-operative physiotherapy, significantly expedite patient recovery.

Keywords: Endometriosis, Sciatic nerve, Extrapelvic, Transgluteal approach

References

1. B. Smolarz, K. Szyłło, H. Romanowicz
Endometriosis: epidemiology, classification, pathogenesis, treatment and genetics (review of literature) Int. J. Mol. Sci., 22 (19) (2021 Sep 29), p. 10554
2. R. Dhote, L. Tudoret, C. Bachmeyer, P. Lagmann, B. Christoforov
Cyclic sciatica: a manifestation of compression of the sciatic nerve by endometriosis: a case report Spine, 21 (1996), pp. 2277-2279
3. H. Roman, M. Seyer-Hansen, T. Dennis, B. Merlot
Excision of deep endometriosis nodules of the sciatic nerve in 10 steps
J. Minim. Invasive Gynecol., 28 (10) (2021 Oct), pp. 1685-1686, 10.1016/j.jmig.2021.05.019
Epub 2021 Jun 4. PMID: 34091045
4. L. Yanchun, Z. Yunhe, X. Meng, C. Shuqin, Z. Qingtang, Y. Shuzhong
Removal of an endometrioma passing through the left greater sciatic foramen using a concomitant laparoscopic and transgluteal approach: case reportBMC Womens Health, 19 (1) (2019 Jul 12), p. 95, 10.1186/s12905-019-0796-0

9. Robotic-assisted pudendal nerve release to surgically manage pudendal neuralgia – a debilitating case of neurovascular entrapment

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Aims: Demonstrate the surgical approach and relevant anatomy for pudendal nerve neurolysis.

Background: Pudendal neuralgia has a propensity for women with a reported incidence of 1 in 1000. Compression of the nerve can result in chronic pelvic pain with associated parasthesia and may have a profound impact on an individual's quality of life. Nantes Criteria can be used to help guide the diagnosis(1,2).

Patient and Procedure: We present a case of a 47-year-old suffering with chronic, debilitating left labial/ vaginal pain. She had a history of endometriosis but this was not the causative pathology. She met the Nantes criteria, with worsening symptoms whilst seated. Examination revealed a positive Tinel sign for the left pudendal nerve. MRI demonstrated a loss of bulk of the left obturator internus and previous CT-guided pudendal nerve block resulted in transient improvement in symptoms..She'd had a previous transguluteal release without benefit, reflecting that the lesion was either above or at the entry of Alcock's canal.
Surgery was performed via Robotic-Assisted Laparoscopy. The left lateral paravesical space is opened – care is taken to optimise access and keep the field dry. Once the arcuate line of the pelvis is identified, the angle of dissection changes to identify the sacrospinous ligament. The left pudendal nerve is entrapped at the level of the sacrospinous ligament; when this ligament is

transected, the nerve is released medially and seen to pass freely into Alcock's canal. Pulsation of the pudendal artery is seen to become more prominent. Indocyanine green highlights the relevant neurovascular bundle. Four months from the procedure, the patient has seen marked improvements in her symptoms and mobility.

Discussion/Conclusion: The treatment for pudendal neuralgia should be individualised and carried out by a multidisciplinary team. When conservative treatment fails, surgical nerve exploration and decompression can be considered.

References:
1. Labat JJ, Riant T, Robert R, Amarenco G, Lefaucheur JP, Rigaud J. Diagnostic criteria for pudendal neuralgia by pudendal nerve entrapment (Nantes Criteria). Neurourol Urodyn. 2008;27(4).
2. Possover M. Laparoscopic Management of Endopelvic Etiologies of Pudendal Pain in 134 Consecutive Patients. Journal of Urology. 2009;181(4).

10. Combined decompression of pudendal and posterior femoral cutaneous nerves for entrapment neuralgias using transperitoneal robotic laparoscopy: feasibility and our 4 steps technique

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Objective: To demonstrate the feasibility of a combined decompression of pudendal and posterior femoral cutaneous (PFC) nerves for entrapment syndrome using transperitoneal robotic laparoscopy.

Design: Demonstration of our 4 steps technique with narrated video footage.

Setting: Pudendal and posterior femoral cutaneous neuralgias caused by an entrapment syndrome are both responsible for perineal pain. Although more precise data are lacking, these two neuralgias are frequently associated. Failure of surgical pudendal nerve decompression in the early 2000 has driven to discover the entity of a potential entrapment syndrome of the PFC nerve around the ischium bone. The PFC nerve and its inferior cluneal branch can also be affected by a neuralgia, giving neuropathic pain to a more posterior part of the perineum and the thigh, without any neuro-vegetative symptom. In case of failure of medical treatment, surgery can be proposed using an invasive open trans-gluteal approach as a standard treatment.

Interventions: Transperitoneal robotic laparoscopy for a mini-invasive releasing of both pudendal and PFC nerves, following a 4 steps technique:Opening of the peritoneum between external iliac vessels and umbilical ligament
Dissection of the internal iliac and pudendal arteries up to the pudendal nerve
Section of sacrospinous ligament and release of pudendal nerve
Section of sacrotuberous ligament and release of PFC nerve.

Conclusion: Previously, pudendal and PFC neuralgias have been managed with an invasive open trans-gluteal surgery. Here, we demonstrate the feasibility of a mini-invasive transperitoneal robotic laparoscopy, with a standardized 4 steps surgical technique.

Keywords: pudendal, cluneal, posterior femoral cutaneous, laparoscopy, robot, entrapment, neuralgia.

11. Sidewall endometriosis with ureteric infiltration - when to re-implant and when to stent during excision surgery

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Aims: Demonstrate several cases of endometriosis excision with known lateral infiltration of the uterosacral ligaments or pelvic sidewall affecting the ureters.

Background: Ureteric infiltration accounts for 0.9-2.3% of urinary tract endometriosis [1]. Excision from the ureter is considered some of the most complex in endometriosis surgery[2]. Extrinsic/intrinsic disease is used within classification but may be considered

more of a histological description. Ultimately, the decision for surgeons is whether it is possible to perform a ureterolysis alone, ureterolysis with stenting or re-implantation.

Patients and Interventions: The first case is a patient with obstructive uropathy being managed with bilateral ureteric stents. Preoperative planning had indicated the likely need for bilateral re-implantation, however, following ureterolysis the calibre and vascularisation of both ureters was such that the team was comfortable managing with a more conservative approach.
The second case had no known obstructive uropathy but did have a significant nodule arising from the right pelvic sidewall with lateral/posterior infiltration, encasing the anterior division of the internal iliac vessels, ureter and lumbosacral plexus. Following ureterolysis, there was disruption of the ureteric adventitia managed with ureteric stent insertion.
The third case had known right obstructive uropathy where unilateral ureteric re-implantation had been planned. Following insertion of ureteric stents and ureterolysis, the right ureter was disrupted by endometriosis; the decision was made to proceed with ureteric reimplantation.

Discussion: Ureteric endometriosis necessitates comprehensive planning but also procedural flexibility. Multidisciplinary surgery offers a range of experience and skills to ensure the appropriate decision is made intra-operatively for the patient.

References:
1. Leone Roberti Maggiore U, Ferrero S, Candiani M, Somigliana E, Viganò P, Vercellini P. Bladder Endometriosis: A Systematic Review of Pathogenesis, Diagnosis, Treatment, Impact on Fertility, and Risk of Malignant Transformation [figure presented]. Vol. 71, European Urology. 2017.
2. Abrao MS, Andres MP, Miller CE, Gingold JA, Rius M, Neto JS, et al. AAGL 2021 Endometriosis Classification: An Anatomy-based Surgical Complexity Score. J Minim Invasive Gynecol. 2021;28(11).

12. Inguinal Endometriosis: Step By Step Video Presentation- From A Challenge To A Success. The benefits of minimally invasive surgery

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Introduction. Endometriosis is a complex condition characterised by the existence of endometrial glands and stroma located outside the endometrial cavity. Although the pelvic region is one of the principal sites of endometriosis, it can also occur in less common places such as the bladder, diaphragm, umbilicus, and groyne. Deeply infiltrative endometriosis of inguinal canal represents a much less common location, but also much more challenging, both regarding the treatment and the actual diagnosis. Due to its anatomic structure and taking into account the vasculo-nervous elements that cross it, inguinal canal requires a thorough surgical approach from a multidisciplinary team.

Methods. The purpose of this video presentation is to present three cases of patients with deep infiltrating endometriosis involving the inguinal region who benefited from tailored minimally invasive surgeries.

Results. The three patients initially presented with persistent pelvic pain radiating to the hip, dyspareuna, and dysmenorrhea. During the physical examination, a sensitive mass in the inguinal region was found in two of the three cases. Through minimally invasive surgery, the endometriotic lesions were entirely removed in each case. In two of the cases, the round ligament was totally removed. In two of the cases, we tailored the surgery tehnique by using alloplastic procedures in order to cover the hernia gate. During follow up: six and a half years after surgery, we experienced no recurrence.

Conclusion. Inguinal endometriosis treatment requires a comprehensive approach headed by a multidisciplinary team that can effectively handle all possible outcomes.

13. Laparoscopic and robotic-assisted mucosa-sparing complete nodular resection in #Enzian C1 and C2 lesions.

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Objective: The aim of this video is to present a minimally invasive mucosa-sparing technique for complete nodular resection in #Enzian C1 and C2 lesions (1).
Intervention: Laparoscopic or robotic-assisted examples of mucosa-sparing complete nodular resection with cold sissors and mono-layer suture using the so-called bubble sign.
Results: This educational film presents the laparoscopic and robotic-assisted complete nodular resection of small #Enzian C1 and C2 lesions of the rectum. The presence of the lesions was confirmed by preoperative imaging with transvaginal ultrasound or MR imaging (2,3). Due to the size < 3 cm and the involvement of only the anterior rectal wall we indicated the minimally-invasive,

mucosa-sparing approach. The complete nodular resection is a mucosa-sparing full-thickness resection (4). After resection of the nodule, the rectum is filled with air. This causes the so-called bubble sign, a globe-like presentation of the mucosa and the borders of the muscularis layer whoch then can be easily sutured by a horizontal continuous mono-layer suture with 3-0 barbed thread. In case of larger nodules, lateral rectal involvement, multiple nodules or other intrasurgical changes, the approach can be adopted to disc excision or segmental resection.

Conclusions: Single or double complete nodular resection with minimally invasive laparoscopic or robotic-assisted mucosa-sparing approach is a feasible alternative in small rectal deep endometriosis lesions.

Keywords: Rectal endometriosis, laparoscopic surgery, robotic surgery

References:

1. Keckstein J, Saridogan E, Ulrich UA, Sillem M, Oppelt P, Schweppe KW, Krentel H, Janschek E, Exacoustos C, Malzoni M, Mueller M, Roman H, Condous G, Forman A, Jansen FW, Bokor A, Simedrea V, Hudelist G. The #Enzian classification: A comprehensive non-invasive and surgical description system for endometriosis. Acta Obstet Gynecol Scand. 2021 Jul;100(7):1165-1175. doi: 10.1111/aogs.14099. Epub 2021 Mar 19. PMID: 33483970.
2. Keckstein J, Hoopmann M, Merz E, Grab D, Weichert J, Helmy-Bader S, Wölfler M, Bajka M, Mechsner S, Schäfer S, Krentel H, Hudelist G. Expert opinion on the use of transvaginal sonography for presurgical staging and classification of endometriosis. Arch Gynecol Obstet. 2023 Jan;307(1):5-19. doi: 10.1007/s00404-022-06766-z. Epub 2022 Nov 11. PMID: 36367580; PMCID: PMC9837004.
3. Aas-Eng MK, Lieng M, Dauser B, Diep LM, Leonardi M, Condous G, Hudelist G. Transvaginal sonography determines accurately extent of infiltration of rectosigmoid deep endometriosis. Ultrasound Obstet Gynecol. 2021 Dec;58(6):933-939. doi: 10.1002/uog.23728. PMID: 34182605.
4. Gaia G, Afonina M, Sighinolfi MC, Formisano G, Bianchi PP, Marconi AM. Robotic multiple sigmoid and rectal mucosa skinning in a multicentric deep infiltrating bowel endometriotic nodules: a case report. J Minim Invasive Surg. 2023 Sep 15;26(3):146-150. doi: 10.7602/jmis.2023.26.3.146. PMID: 37712314; PMCID: PMC10505363.

14. Empowering Precision: Robotic Technique For Tailored Endometriosis Care, Featuring Organ-Preserving Rectal Disc Excision

Vinya Paladugu, Horace Roman
France

Introduction/Background: Rectal endometriosis presents a challenging scenario for surgical management due to its intricate location and potential for symptomatology.

Case Presentation: We present a case of a 33-year-old female exhibiting symptoms suggestive of bowel endometriosis, including bloating, catamenorrheal diarrhea, and right sciatic pain. Imaging revealed a 3 cm right parametrial lesion involving the rectum, suitable for disc resection, alongside a proximal colonic lesion.

Methods/Methodology: To minimize invasiveness and preserve bowel function, we employed segmental resection for the colonic lesion and disc resection for the rectal lesion. This tailored approach aimed to avoid extensive segmental resection, emphasizing the significance of tailored surgical strategies in complex endometriosis cases. The accompanying video illustrates the steps of robotic disc excision for rectal endometriosis, including lesion localization, nodule dissection, rectal release, rectal shaving, preparation of the lateral rectal wall, suture placement on the shaved area, introduction of a closed EEA circular stapler, stapler opening at the nodule level, knot placement, pushing the shaved area into the stapler, stapler closure and firing, and vascular assessment using an ICG test. Segmental colonic resection anastomosis was performed via a suprapubic incision.

Results: Robotic disc excision offers a minimally invasive and effective approach for managing rectal endometriosis, facilitating precise lesion removal while preserving bowel function. Tailored surgical strategies, such as combined segmental and disc resection, contribute to enhanced patient outcomes and quality of life.

Conclusions/Discussion:

1.Roman H, et al. Delayed functional outcomes associated with surgical management of deep rectovaginal endometriosis with rectal involvement: giving patients an informed choice. Hum Reprod. 2010;25(4):890-899.
2.Nezhat C, et al. Bowel endometriosis: diagnosis and management. Am J Obstet Gynecol. 2018;218(6):549-562.
3.Seracchioli R, et al. Long-term cyclic and continuous oral contraceptive therapy and endometrioma recurrence: a randomized controlled trial. Fertil Steril. 2010;93(1):52-56.

15. Combined robotic-transanal-transection-single-stapler (TTSS) rectal resection and colo-anal anastomosis for deep endometriosis of low rectum, vagina and parametrium

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Objective: To describe a combined robotic and transanal technique used to treat deep endometriosis infiltrating the vagina, both parametria and ultralow rectum in a 27-year-old patient with deep dyspareunia, right sciatic pain, bladder dysfunction with weak urinary flow, abdominal bloating and severe dyschezia.

Background: The achievement of a perfect bowel anastomosis in patients with low rectal endometriosis could be challenging owing to technical and anatomic limitations. By allowing a right angle rectotomy with a single-stapled anastomosis, the transanal transection single-stapled technique overcomes these technical difficulties ensuring a good-quality anastomosis with an easier correction of postoperative anastomotic leakage when it occurs.

Interventions: The surgical strategy is splitting the nodule in 3 components according to different anatomic structures involved (parametrium, vagina, and rectum), then removing each one separately.
The rectal involvement is approached following several steps: 1) opening of the rectovaginal space, 2) transection of the mesorectum and mesocolon; 3) section of inferior mesenteric vessels to obtain a proper colon mobilization; 4) start of the transanal step and transanal distal section of the rectum at 4-5 cm above the anal verge; 5) extraction of the specimen through the anus, 6) proximal bowel segment transection 1 cm above the upper limit of the nodule under ICG control; 7) placement of circular stapler anvil into the sigmoid colon which is secured by a purse string suture; 8) running suture of the distal edge; 9) connection between the anvil and the shoulder of the transanal circular stapler, which is then fired with coloanal anastomosis formation; 10) stapled line reinforcement by stitches and integrity anastomosis test. No preventive diverting stoma was performed in accordance with our policy. Operative time averages 3 hours.

Conclusions: Although data from other centers are scarce in patients with ultralow rectal endometriosis, the use of TTSS technique is an interesting approach in young patients, with favorable functional outcomes.

Key words: rectal endometriosis; ultralow rectum; coloanal anastomosis; TTSS.

16. Robotic techniques in endometriosis: 6 steps for excision of rectovaginal nodules – the butterfly method

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Objective: The aim of this video is to present a standardized and reproducible approach for the surgical excision of deep endometriosis in the rectovaginal septum, represented by #ENZIAN A.

Intervention: An Intuitive Xi DaVinci system was used at the tertiary referral center, IFEMEndo in Bordeaux, France. Patient consent was obtained.

Results: This educational film presents a systematic approach dividing the surgical procedure into following 6 steps (1) Adhesiolysis and identification of the decisive structures such as the sacrouterine ligament, ureter, and nervus hypogastricus on both sides. (2) Dissection of the Okabayashi pararectal space with preservation of the plexus hypogastricus. (3) Incision of the pararectal space medial of the sacrouterine ligament. (4) Dissection of the rectovaginal septum and detachment of the rectum in a caudal direction. (5) Resection of the entire endometriotic nodule depending on the depth of invasion. (6) Closure by suturing when transvaginal resection was performed. We used the metaphor of the butterfly, first introduced by Khazali et al. in 2019[1], as it comprehensively and pictorially reflects the resection line of the endometriotic nodule in the rectovaginal septum.

Conclusions: Surgical management of rectovaginal endometriosis can be challenging and requires as much as possible the preservation of autonomic nerves. A systematic approach enables the endoscopists to perform a safe and complete removal of the lesion.

Keywords: Deep endometriosis, rectovaginal septum, robotic surgery

References:

[1]Khazali S, Gorgin A, Mohazzab A, Kargar R, Padmehr R, Shadjoo K, Minas V. Laparoscopic excision of deeply infiltrating endometriosis: a prospective observational study assessing perioperative complications in 244 patients. Arch Gynecol Obstet. 2019 Jun;299(6):1619-1626. doi: 10.1007/s00404-019-05144-6. Epub 2019 Apr 5. PMID: 30953187

SELECTED E-POSTERS PRESENTATIONS

17. Early-life environmental exposures and risk of endometriosis in the NutriNet-Santé cohort

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Background: The etiology of endometriosis is poorly known; established risk factors are limited and few environmental risk factors have been identified. We sought to explore the potential associations between several perinatal and childhood environmental exposures and the risk of endometriosis in women.

Methods: This study was based on NutriNet-Santé, an ongoing French web-based prospective cohort following-up several tens of thousands of adults since 2009. The analysis included 25,251 women with health data available and who completed a self-questionnaire on perinatal and childhood exposures. Associations with self-reported endometriosis were investigated using multivariable logistic regression models, adjusted for potential confounders identified through direct acyclic graphs.

Results: Endometriosis was positively associated with exposure to maternal smoking during pregnancy (adjusted odds-ratio (aOR)=1.86, 95% confidence interval (CI)=1.33-2.61), daycare attendance (aOR=1.61, 95% CI=1.11-2.33), exposure to pets (both cat and dog vs. no animals: aOR=1.23, 95% CI=1.08-1.41), and mold exposure in housing during childhood (aOR=1.42, 95% CI=1.15-1.74). Conversely, being born to an older mother (aOR=0.83, 95% CI=0.73-0.94), living on a farm during childhood (aOR=0.77, 95% CI=0.62-0.97), and having farmer parents (aOR=0.72, 95% CI=0.54-0.97) were inversely associated with endometriosis. However, size at birth, prematurity, mode of delivery, or exposure to breastfeeding were not associated with risk of endometriosis.

Conclusions: The findings from this large cross-sectional study among French adult women suggest associations between several perinatal and childhood exposures and endometriosis. Further research is needed to better clarify the impact on the early-life and childhood environment on endometriosis. If confirmed in other studies, these results could have important implications for the primary prevention of the disease.

Keywords: perinatal exposures, environment, cohort, Epidemiology

18. Treatment patterns among women with endometriosis and/or adenomyosis: the compare-endometriosis cohort

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Introduction: Pharmacotherapy and surgery play a central role in endometriosis management. However, treatment patterns may vary greatly, and very few studies have described the diversity of existing profiles among women with endometriosis. We aimed to (i) describe treatment patterns among women with endometriosis, and (ii) investigate their associated factors.

Methods: ComPaRe-Endometriosis is an ongoing prospective e-cohort of several thousands of patients with endometriosis and/or adenomyosis initiated in 2018. Data on types of treatment used in the preceding 12 months were collected annually. In a cross-sectional analysis at first follow-up, similar treatment profiles were grouped using K-means clustering. The factors potentially associated with treatment clusters were examined among a large panel of patient and disease characteristics using multinomial logistic regression modeling.

Results: Four clusters were identified (N=2863): Cluster 1 (37%) included women reporting few treatments, mostly analgesics. Women all reported progestin use in Cluster 2 (18%), and OCP use in Cluster 3 (25%). Cluster 4 (20%) gathered a high proportion of women reporting alternative/complementary medicine and analgesics use.
Compared with Cluster 1, women from Cluster 2 were more likely to report digestive/urinary discomfort, higher pain levels, and more comorbidities. Women from Cluster 3 were younger, had higher education levels, and reported more discomfort and higher pain levels. Those in Cluster 4 were more likely to report pain and discomfort also, and to have higher education levels, complementary healthcare, and a lower body mass index.

Conclusions: Using an unsupervised approach based on current treatments of endometriosis, we identified and characterized 4 treatment profiles. These results are informative for public health and should be replicated in other settings in order to compare treatment patterns and their correlates in other populations and regions.

Keywords: treatment, pattern, cohort

19. Advancing Insights Into Uterine Innervation: Computer-Assisted Dissection And Immunohistochemistry In The Exploration Of Benin Gynecological Pelvic Pathologies

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Introduction/Background: Uterine innervation plays a crucial role in pain mechanisms associated with conditions such as endometriosis and adenomyosis. This study focuses on the detailed examination of uterine innervation, both normal and altered, in women suffering from painful benign gynecological pathologies. We employ an innovative technique called Computer-Assisted Dissection (CAD) for this analysis.

Methods: Samples from hysterectomy specimens were collected, fixed in 4% formalin, and embedded in paraffin. 4-micron sections were prepared to identify various types of nerve fibers in different layers and portions of the uterus through immunostaining techniques, including markers for sympathetic, parasympathetic, somatic, sensory, erectile, sexual, and vasodilator innervation. Immunofluorescence technique was also realized. Automated analysis by AI via QuPath software provided an objective quantification of nerve percentages in specific areas.

Results: The study includes twenty patients who underwent hysterectomy for endometriosis or adenomyosis, associated with pelvic pain and four hysterectomies from brain dead donors considered as "normal". Collected data include clinical information, medical and surgical history, quality of life, and pelvic pain symptoms assessed using specific questionnaires (ENDOPAIN 4D, CONVERGENCE PP, DN4, SF36, GICLI, FSFI, ICIQ).

Conclusions/Discussion: The application of CAD technique proved feasible and allowed for qualitative and quantitative analysis. Our initial results demonstrate specific uterine innervation in these patients with pelvic pain associated with endometriosis and adenomyosis. This study opens new perspectives for understanding the underlying mechanisms of pelvic pain and could have a significant impact on the development of future therapeutic strategies

20. Treatment Perspectives In Catamenial Pneumothorax

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Introduction. Thoracic endometriosis is one of the most common extrapelvic locations of endometriosis, although it only affects 1% of pelvic endometriosis cases. Pneumothorax is the most common form of clinical presentation.

Objectives. To evaluate the recurrence rate and response to treatment of catamenial pneumothorax and its relationship with pelvic endometriosis.

Methods. Retrospective observational study developed at a tertiary hospital. The inclusion criteria were patients diagnosed with catamenial pneumothorax between January 1993 and May 2022.

Results. Eighteen patients diagnosed with catamenial pneumothorax were included, with an average age of 32 years.
94.7% of patients had right-sided pneumothorax. 33.3% of patients were undergoing hormonal treatment prior to diagnosis. The mean number of pneumothorax episodes prior to surgical treatment was 2.9. 88.9% of patients required surgical treatment. 16.7% of patients diagnosed with thoracic endometriosis also associated pelvic endometriosis during their evolution. Long-term treatment was based on thoracic surgical treatment associated with suppressive hormonal therapy. Surgical treatment was performed via VATS

in 100% of patients. The most frequently used procedures were talc pleurodesis, bullectomy, and segmentectomy, in 68.7% of patients. The first choice of treatment in hormonal therapy was GnRH analogs in 68,7% of patients, and after 6-12 months, switched to another drug inducing amenorrhea with the least association of side effects, such as combined contraceptives, preferably in continuous regimen, progestins, IUDs, etc. After surgical treatment, recurrence occurred in 5 patients (31.2%). In all cases, the recurrence was ipsilateral to the initial episode. 60% of the patients were not receiving suppressive hormonal treatment at the time of recurrence.

Conclusions. Thoracic endometriosis is likely underdiagnosed, highlighting the importance of diagnostic suspicion. Treatment is based on the combination of thoracoscopic techniques with suppressive hormonal therapy, aiming to prevent recurrence, which is much more frequent in patients without this post-surgical treatment.

Key Words. Catamenial pneumothorax, endometriosis, thoracic endometriosis.

21. "An interesting laparoscopic complication" – Stump the experts.

Bedoya-Ronga Alvaro

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Introduction. Laparoscopy is the gold standard approach for most benign gynaecological surgeries including hysterectomy for benign cause. The surgical risks and complications are increased in cases when the body mass index is increased, or where the anatomy is distorted due to previous abdominopelvic surgeries, open surgery in particular, or when there is history of severe endometriosis, previous tubo-ovarian abscess, or anatomical variants of the normality. The Clavien-Dindo Scale is a widely used system for grading post-operative surgical complications. It classifies complications into grades based on the type of therapy needed to correct them, ranging from Grade I to Grade V. As an extension of the Clavien-Dindo system, designed to grade intra-operative complications we can use the "ClassIntra classification" which categorizes events from Class 0 (no deviation) to Class V (patient death), reflecting the severity and impact on surgical management of the intra-operative complication.
Double ureter can be present in around 1 to 2% of patients and are more common, in women and in the right side

Method. Interactive oral presentation of a Total Laparoscopic Hysterectomy in a 39 years old patient with one previous caesarean section and an abnormal anatomy. The indication was adenomyosis related pelvic pain, she had mild peritoneal endometriosis. The participation is supported by a video of the surgical procedure, complication, and resolution. Formal consent for publication and presentation was obtained from the patient.

Result. Video example of an anatomical variant resulting in Classintra Grade 2 complication.

Conclusion. Anatomical variants have a variable presentation and can lead to intra and post operative complications. Sharing this in an educational manner helps surgeons to think out of the box and be more attentive to peculiar cases.

22. Setting up a new endometriosis centre – Pathways, links and organisation

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Introduction. Endometriosis affects about 10% of reproductive-age women and girls globally, which amounts to approximately 190 million individuals. Endometriosis causes severe pain, infertility, and impacts the overall well-being of patients. To address the complexities, the British Society for Gynaecological Endoscopy (BSGE) has set accreditation criteria for Endometriosis centres. The BSGE prioritise dedicated consultant-led services, multidisciplinary teams (MDT), surgical expertise, research involvement, and patient support, ensuring that patients receive specialised care, comprehensive treatment options, and holistic support services for better outcomes.
Birmingham City Hospital is a district general hospital, our maternity delivers 6000 babies a year, our gynaecology outpatients see 17.000 patients a year, we have 20 elective gynaecology and 13 emergency gynaecology beds.
We developed an endometriosis centre, fulfilling the BSGE accreditation criteria utilising the available resources without extra founding.

Method. This is an oral presentation describing the needful and how to utilise the available resources to provide a high standard care in an ever shrinking public health sector.
Leveraging services such as pain management, physiotherapy, clinical psychology, colorectal and urology and specialised radiology has been key to enhancing the care pathway for endometriosis patients. By establishing clear pathways with various service

providers and using ultrasound for surgical treatment planning, and stratifying surgeries accordingly, we have been able to streamline its approach.

Result. The results of this initiative have been promising, with the hospital successfully fulfilling the BSGE accreditation process over three years without requiring additional funding. Currently, the clinic serves over 250 patients and performs approximately 75 endometriosis-related surgeries each year.

Conclusion. Our experience highlights that high-quality, holistic care can be delivered using existing resources by establishing effective pathways and working relationships. This model has showcased positive elements such as specialist accountability, retained ownership of patient care, and streamlined services that avoid bureaucratic hurdles and delays in patient pathways.

23. Ultrasound Scan, the KEY for any endometriosis centre

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Introduction. Endometriosis affects about 10% of reproductive-age women and girls globally, which amounts to approximately 190 million individuals. Endometriosis causes severe pain, infertility, and impacts the overall well-being of patients. It takes on average 7 to 10 years and 5 to 7 doctors' visits to be diagnosed. The relevance and accuracy of USS in the pre-operative assessment of Deep Infiltrating Endometriosis (DIE) it is well stablished and often used in selected centres of excellence. It's use in a district general hospital is less common. We use is as a diagnostic and stratifying tool.

Method. We describe how Endometriosis Ultrasound Scan (eUSS) following the International Deep Endometriosis Analysis (IDEA) consensus and the Morphological Uterus Sonographic Assessment (MUSA) are utilised to diagnose and stratify the surgical approach to endometriosis surgery in our service.
We are a low volume endometriosis centre and as such we are mindful of our limited resources.
Based on our USS findings we stratify patient's surgery as

1- peritoneal endometriosis; and
2- frozen pelvis deep / endometriosis of the bowel/bladder (these all have MRI and multidisciplinary review for joint surgery).

Result. We retrospectively review the surgical findings and pre-operative USS. In 2023 out of 100 surgeries, 67 were for pelvic pain and suspected endometriosis. Out of those, six presented with previous MRI scans, leaving Sixty-one of which required USS, three presented with external USS, the rest had eUSS. Out of the 58 patients that has eUSS in our department, 8 needed further assessment with MRI.
We found the IDEA soft markers and clinical symptoms correlates very well with superficial endometriosis in surgical findings; the MUSA criteria have also high correlation with adenomyosis on histology results in our patients. We only had 3 negative laparoscopies, from those only 1 had in endometriosis eUSS.

Conclusion. USS it is a valuable and reliable technique that allow to predict the surgical complexity by following a basic stratification in cases of moderate complexity or hight complexity. This screening and stratification reduce the need for MRI and the MDT workload.

24. Digital program for daily life management with endometriosis: Development and Pilot Study on quality of life and symptoms among participants

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Introduction. To help women with endometriosis after their diagnosis, Lyv developed an online support program available in France. This study was designed to assess the feasibility of developing a digital health program for women with endometriosis and to measure its impact on quality of life and symptom levels.

Methods. Over two hundred interviews of patients and health professionals were conducted to understand the needs of women with endometriosis. The combination of user research, evidence-based medicine, and clinical expertise allows the development of a digital program for patients in three steps: development, feasibility, and pilot study.

A total of 92 program participants were included in the pilot study among 1471 program participants. A control group of women with endometriosis who did not follow the program was recruited (n=149). Two questionnaires were sent to program participants and controls at baseline and three months.

Results. Perceived knowledge of endometriosis was significantly greater at three months in participants than in controls (P<.001). Quality of life (EHP-5, EQ-5D) improved in the participants over three months and did not change in the controls. This change significantly differed from the control group for the EHP-5 (*P*=.03, small d) and the EQ-5D (*P*=.001, medium d).
After three months, the general level of pain, anxiety, depression, dysmenorrhea, dysuria, chronic fatigue, neuropathic pain, and endobelly improved significantly. These improvements were significantly different from the control group for global symptom burden (*P*=.48, small d), anxiety (*P*<.001, medium d) and depression levels (*P*=.04, small d), neuropathic pain (*P*=.004, small d), and endobelly (*P*=.03, small d).

Conclusion. Results of the pilot study suggest that a digital health program providing medical and scientific information about endometriosis and multidisciplinary self-management tools can help women manage life with endometriosis alongside their medical care.

Keywords. Endometriosis, Quality of life, Digital program

25. Factors associated with anxiety and depression levels among women with endometriosis: The French ComPaRe-Endometriosis cohort

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Introduction. Women with endometriosis have been reported to have a higher prevalence of anxiety and depression than those without the disease. Aside from chronic pain, little is known about the factors associated with mental health among endometriosis patients. We sought to investigate the correlates of anxiety and depression levels among women with endometriosis in a large sample of patients.

Methods. We performed a cross-sectional analysis of 2587 patients within ComPaRe-Endometriosis, a prospective e-cohort of patients with endometriosis and/or adenomyosis launched in 2019. We used ordinal polytomous logistic regression modeling to evaluate associations between various factors and scores of anxiety (GAD-7) and depression (PHQ-9), after adjustment for age, sociodemographic factors, year of diagnosis, comorbidities, level of pain, and type of disease.

Results. Average levels of anxiety and depression were 7.8/21 and 9.8/27, respectively. Anxiety (mean 7.9 vs. 6.8) and depression (mean 9.8 vs. 7.8) levels were more intense among symptomatic vs. asymptomatic patients. Anxiety and depression levels were positively associated with a financial condition perceived as 'difficult' (<0.0001), high number of consultations with a general practitioner before diagnosis (0.03), poor sleep quality (GAD-7: OR=1.6, 95%CI=1.5-1.7; PHQ-9: OR=2.3, 95%CI=2.0-2.6), and higher intensity of dysmenorrhea, dyspareunia, and pelvic and abdominal pain (<0.0001). Anxiety and depression levels were inversely associated with quality of life measured with EQ-5D (GAD-7: OR=0.02, 95%CI=0.01-0.06; PHQ-9: OR=0.001,95%CI=0.001-0.005).

Conclusion These findings highlight several socio-demographic, personal, and medical characteristics of endometriosis patients associated with anxiety and depression levels. If confirmed in future studies, these findings may inform the development of targeted programs to improve mental health in women living with endometriosis.

26. Shaving surgery for rectal endometriosis: impact on quality of life

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Introduction: Bowel endometriosis is defined as endometriosis tissue involving bowel wall, at least up to the muscular layer[i]. Despite different surgical techniques (bowel resection[ii],[iii], disc excision and rectal shaving [iv],[v]), there isn't a unique consensus among experts for the treatment.

Methods: Authors carried out a retrospective audit including patients with rectal endometriosis after shaving surgery. The aim of the research was to evaluate the impact on quality of life after shaving surgery, using SF-36 questionnaire, and symptoms' reduction (dyschezia, dyspareunia, pelvic chronic pain) following that procedure. A score between 0 and 100 was given to each question, and the questionnaire was divided into 8 domains (daily activities; limitations due to disease; limitations due to psychological lability;

fatigue; psychological health; sociality; pain; general health). Mann-Whitney U-test was performed to independent samples, checking whether dyschezia, dyspareunia and chronic pelvic pain were involved in scores difference.

Results: Authors have recruited a total of 79 women (mean age 36,7 years): 60 patients (76%) went through surgery because of invalidated symptoms; 65 patients joined the follow up interview with SF-36 questionnaire. Fifty-two patients (66%) referred a resolution of dyschezia, fifty-nine (75%) of dyspareunia and forty-four (56%) of chronic pelvic pain. Only one patient reported dyarrheal bowel habits after the surgery.
When present, dyschezia is related to a lower rate in "Daily activities" (p-value=0,022), while dyspareunia to a lower grade in "pain" (p-value=0,028) and in "general health" (p-value=0,014). Chronic pelvic pain is linked to worst score in all domains (p-value <0,05), except for "sociality".

Conclusions: Shaving is the less invasive surgery for rectal endometriosis' treatment, and the report highlights that could be a worthwhile solution in terms of symptoms' reduction and quality of life's improvement.
Next step for this investigation is to compare "shaving surgery" and "bowel resection" on patients' quality of life.

References:
1 Charles Chapron and others, 'Surgery for Bladder Endometriosis: Long-Term Results and Concomitant Management of Associated Posterior Deep Lesions', Human Reproduction (Oxford, England), 25.4 (2010), 884–89 <https://doi.org/10.1093/humrep/deq017>.
[1] Karolina Afors and others, 'Segmental and Discoid Resection Are Preferential to Bowel Shaving for Medium-Term Symptomatic Relief in Patients With Bowel Endometriosis', Journal of Minimally Invasive Gynecology, 23.7 (2016), 1123–29 <https://doi.org/10.1016/j.jmig.2016.08.813>.
[1] Mario Malzoni and others, 'Feasibility and Safety of Laparoscopic-Assisted Bowel Segmental Resection for Deep Infiltrating Endometriosis: A Retrospective Cohort Study With Description of Technique', Journal of Minimally Invasive Gynecology, 23.4 (2016), 512–25 <https://doi.org/10.1016/j.jmig.2015.09.024>.
[1] Jacques Donnez and Jean Squifflet, 'Complications, Pregnancy and Recurrence in a Prospective Series of 500 Patients Operated on by the Shaving Technique for Deep Rectovaginal Endometriotic Nodules', Human Reproduction (Oxford, England), 25.8 (2010), 1949–58 <https://doi.org/10.1093/humrep/deq135>.
[1] Horace Roman and others, 'Surgical Management of Deep Infiltrating Endometriosis of the Rectum: Pleading for a Symptom-Guided Approach', Human Reproduction (Oxford, England), 26.2 (2011), 274–81 <https://doi.org/10.1093/humrep/deq332>.

27. The Place Of Physical Activity In Physical Self Concept Among Women With Endometriosis

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Introduction/Background: The aim of this study is to assess and compare the physical self-concept score of women with endometriosis performing a regular PA and not performing any regular PA. As endometriosis affects the quality of life in women[1,2], they tend to have a negative image of their body[3]. This relates closely to the physical self-concept which refers as the perception or evaluation of a person's physical abilities and physical appearance[4]. The physical self-concept could be increased by physical activity (PA)[5].

Methods/Methodology: French women with endometriosis were asked to respond to a questionnaire over physical perception. The questionnaire was passed online through a link and on paper at the endometriosis clinic of Paris Saint Joseph hospital to increase the number and diversity of respondents. The short form of the *physical self-description questionnaire* was used to measure physical self-concept. In total, 418 women completed the questionnaire. Among them, 289 women stated performing a regular PA (at least once a week), and 129 stated not performing any regular PA.

Results: The physical self-concept score was significantly higher in the regular PA group compared to the group not performing any regular PA ($p<0.05$). All the scores for the physical self-concept sub-domains were significantly higher in the regular PA group compared to the group not performing any regular PA ($p<0.05$).

Conclusions/Discussion: Performing a regular PA might increase the overall physical self-concept of women with endometriosis and all its subdomains. Therefore, it should be recommended to women with endometriosis to perform a regular PA to increase their body perception and the image they have of their body.

Keywords: Endometriosis – Physical activity – Physical self concept

References:
Facchin, F., Barbara, G., Saita, E., Mosconi, P., Roberto, A., Fedele, L., & Vercellini, P. (2015). Impact of endometriosis on quality of life and mental health : Pelvic pain makes the difference. *Journal of Psychosomatic Obstetrics & Gynecology*, 36(4), 135-141.
Warzecha, D., Szymusik, I., Wielgos, M., & Pietrzak, B. (2020). The Impact of Endometriosis on the Quality of Life and the Incidence of Depression—A Cohort Study. *International Journal of Environmental Research and Public Health*, 17(10), 3641.
Sayer-Jones, K., & Sherman, K. A. (2023). "My body…tends to betray me sometimes" : A Qualitative Analysis of Affective and Perceptual Body Image in Individuals Living with Endometriosis. *International Journal of Behavioral Medicine*, 30(4), 543-554.
Fox, K. R., & Corbin, C. B. (1989). The Physical Self-Perception Profile : Devlopment and Preliminary Validation. *Journal of Sport and Exercise Psychology*, 11(4), 408-430.
Lemoyne, J., Valois, P., & Guay, F. (2015). Physical Self-concept and Participation in Physical Activity in College Students. *Medicine & Science in Sports & Exercise*, 47(1), 142-150.

28. Highlighting The Potential Of Minimally Invasive Treatment For Abdominal Wall Endometriosis

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Introduction: Parietal endometriosis is an uncommon disorder characterised by the existence of endometrial tissue inside the abdominal wall muscles and subcutaneous tissue. Typically, patients have localised menstrual-related stomach discomfort, which may or may not be accompanied with a detectable abdominal tumour. Diagnosing endometriomas may be difficult because to potential confusion with granuloma, hematoma, hernia, or malignancy.

Methods: To assess the efficacy of laparoscopic treatment for deep infiltrating endometriosis (DIE) of the abdominal wall and raise awareness of this uncommon condition. We retrospectively analyzed the medical records of three women with confirmed DIE involving the abdominal wall. All patients underwent laparoscopic excision of the endometriosis nodules and reconstruction of the abdominal wall defect (if necessary).

Results: Three cases of deep infiltrating endometriosis were identified in the pelvic and abdominal wall. Regarding the medical history, it is seen that the patients had surgical procedures such as caesarean section or removal of the lesions by laparotomy. The laparoscopic removal of the parietal endometriomas was carried out after the removal of the deep endometriosis lesions. In two instances, the lesions grew to a size of up to 5 cm, required the use of a polypropylene mesh to repair the defect, similar to the approach used for inguinal hernias. The histopathological study confirmed the diagnosis of parietal endometriosis in all instances. All patients had a recurrence rate of zero and exhibited full regression of symptoms, therefore obviating the need for postoperative treatment.

Conclusion: Proficiency in assessing and performing surgery for abdominal wall endometriosis is a crucial expertise for the experienced gynecologic surgeon. The minimally invasive excision of abdominal wall endometriosis is a very effective approach that enables precise surgical margins and successful treatment of this uncommon illness. It is advisable to use minimally invasive methods to completely remove abdominal wall endometriomas located in the posterior rectus sheath. This technique may provide patients with symptom alleviation and the usual advantages of minimally invasive surgery.

29. Gastrointestinal function and pain outcomes following modified nerve-vessel sparing segmental or full thickness discoid resection for low rectal endometriosis: a prospective cohort study

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Study Objective. This study aims to examine the effect of full thickness discoid resection (FTDR) and modified, limited nerve-vessel sparing segmental bowel resection (NVSSR) in symptomatic patients with low rectal deep endometriosis (DE) within 7 cm from the anal verge by pre- and postsurgical evaluation of gastrointestinal (GI) function reflected by low anterior resection syndrome (LARS) and gastrointestinal function related quality of life (GIQLI) scores, complication rates, pain scores/ VAS (Visual Analog Scale) and Endometriosis Health Profile (EHP-30).

Design. A prospective multi-center cohort study.

Setting. Department of Gynecology of the Hospital St. John of God, Vienna, Austria and Department of Gynaecology, Semmelweis University, Budapest, Hungary.

Patients. A total of 63 premenopausal patients with symptomatic low (within 7 cm from the anal verge) colorectal endometriosis, undergoing full thickness DR or NVSSR.

Interventions. Low modified limited nerve vessel sparing rectal segmental bowel resection (NVSSR) and full thickness discoid resection (FTDR). Measurements and main results: Out of 63 women, 49 (77.8%) underwent NVSSR while 14 (22.2%) underwent FTDR. LARS-like symptoms were observed pre-surgically in 20/63 (31.7%) patients). Postsurgical LARS was observed in 14/63

(22.2%) of the patients (10/49, 20.4% in NVSSR vs. 4/14, 28.5% in the FTDR group). LARS-like symptoms significantly decreased following surgery in FTDR group (p=.049) and showed a trend for decrease in NVSSR group (p=.077).
Post-surgical de novo LARS was only observed in 5/63 (8%) of the patients (NVSSR 4/49, 8.1%, FTDR 1/14, 7.1%). Postsurgical GIQLI scores improved in both groups (p<.001) with comparable changes in NVSSR and FTDR cohorts (p=.490). Postoperative grade III complication rates between NVSSR and FTDR did not vary significantly (6/49 (12.2%) vs. 3/14 (21.4%) p=.26). Pain/VAS scores and EHP-30 scores significantly decreased after a mean follow-up of 29.6±11 and 30.6±11 months in both, NVSSR and FTDR groups (EHP-30; p<.001; dysmenorrhea, dyspareunia, dyschezia all p<.05 for both cohorts).

Conclusion. When comparing low colorectal surgery by either NVSSR or FTDR in a high-risk group for surgical complications, both techniques confer improvement of GI function reflected by LARS and GIQLI with non-significant differences in major complication rates, reduced pain and EHP-30 scores.

Keywords. Gastro intestinal quality of life index (GIQLI); low anterior resection syndrome (LARS); nerve vessel sparing segmental resection (NVSSR); full thickness discoid resection (FTDR).

30. Peritoneal Endometriosis, Nerve Sparing Surgical Techniques And The One Year Follow-Up Of The Patients In Endometriosis Center Amberg

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Introduction: One of the most common sites of endometriosis implants is the parietal peritoneum. These implants can cause dysmenorrhea and dyspareunia; sometimes this includes extragenital manifestations, or pain outside the menstrual cycle. The pain, especially in combination with sterility or infertility can be an indication for surgery. In our surgical practice we always completely remove the endometriosis lesions.

Methods: Postoperative survey of endometriosis patients in a certified endometriosis clinic between 2019-2022. Investigated parameters were nerve sparing deperitonealisation, pain reduction after surgery, and complications such as urinary retention. Also in this abstract I will describe the surgical steps of the nerve sparing deperitonealisation.

Results: 471 patients received a nerve sparing deperitonealisation out of whom 26% were lost to follow up and 74% took part in the postoperative survey one year after the operation. 95% of the patients showed a significant pain reduction of more than 5 points (visual analog scale 0-10). Only two patients suffered long term complications (urinary retention). The latter were both associated with an extensive bilateral deep infiltrating endometriosis and the nerves couldn't be spared. But the lesions of less than 3 cm were not associated with bladder retention syndrome.

Conclusion: Complete bilateral resection of the sacro uterine ligament should be avoided because of the urinary retention risk

31. Evaluation of rectal endometriosis treatment with High Intensity Focused Ultrasound versus surgery: a retrospective multicentric study.

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Introduction: Rectal endometriosis is one of the most symptomatic location of the desease. Surgery is considered as the standard of care after hormonal therapy failure. HIFU treatment has been studied as an alternative method to surgery. The lesion is devitalised by the heat generated by the HIFU within minutes and with high precision. The objective of this study is to assess rectal endometriosis management with respectively HIFU and surgery.

Method: All patients with a symptomatic unique digestive rectal nodule with failure of medical treatment. Patients' symptomatology was assessed with questionnaires prior to receiving treatment then again 6 months later using validated questionnaires: gynecological and digestive symptoms (VAE), health status (MOSSF-36). We also assessed the morbidity of both treatments according to the Clavien-Dindo classification. Design: Here and elsewhere, head-to-head, retrospective, bicentric study.

Results: 120 patients, 60 in each group, received HIFU or rectal surgery. Rectal nodules characteristics were comparable in both groups. In the HIFU and surgery groups, Clavien-Dindo grade 2 and 3 complication rates were respectively 3.3% vs. 21.7% (p=0.002) and 0% vs. 10% (p=0.01). Hospitalization duration was also significantly shorter for HIFU group (1 day vs. 3 days,

p<0.001). In the HIFU group, significative improvement was observed in acute pelvic pain/dysmenorrhea, dyspareunia, diarrhea, rectal spasms, pain during bowel movement and urinary urgency. In the surgical arm, significative improvement was observed in acute pelvic pain/dysmenorrhea, diarrhea, rectal spasms and pain during bowel movement.

Conclusion: HIFU treatment enables significant reduction in the risk of postoperative complications while allowing at least similar symptoms and quality of life outcomes and could be used as an alternative to surgical treatment for suitable patients. Long-term complications and relapse risks require further research.

32. Surgical treatment of Caesarean-section scar endometriosis (CSSE)

Durasov Vladimir

Introduction: Abdominal wall endometriosis is one of the extragenital location diseases occurring in surgical scar. It is caused by the implantation of endometrial cells during the surgery. Clinical symptoms usually include the presence of palpable painful mass in area of scar or above that increase before menses. Ultrasound, magnetic resonance imaging and computed tomography helps to exclude other diagnosis (hernias, lipomas, abscesses, haematomas, desmoid tumours, metastasis, keloid scars, suture granulomas, etc).

Methods: From January 2019 through December 2023 twelve patients with CSSE underwent surgical excision lesions and reconstruction of abdominal wall. All patients started the gonadotropin-releasing hormone (GnRH) analogues therapy before surgery.

Results: 2 patients had cutaneous and subcutaneous endometriosis. They underwent simple excisions of the mass. 9 patients had lesions (3-6 cm) that involved rectus abdominis muscle fascia and rectus muscle. Reconstruction of abdominal wall by non-absorbable polypropylene mesh was used to close the defect fascia to 8 patients, only one of this 9 patients was possible simple suturing damaged fascia. One patient had big endometriotic nodule (8 cm) that involved subcutaneus fat, fascia, rectus abdominis muscles and peritoneum. To correct the defects plication rectus of muscles was performed and implantation polypropylene mesh 10 x 12 cm was done. Subcutaneous suction drainage was used to minimize the risk of haematoma. All of the patients were discharged the next day and continued taking GnRH-analogues for course of 6 months. Histopathological examination confirmed scar endometriosis. Follow-up 1-4 years shown absence recurrence or hernia formation.

Conclusion: Combination of medical therapy with radical surgical excision is a safe and effective treatment of CSSE.

Keywords: Caesarean-section scar endometriosis, abdominal wall endometriosis, scar endometriosis

33. Vipoglanstat, A Non-Hormonal Treatment For Endometriosis Ready To Start Phase Ii

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Background: Prostaglandin E2 (PGE2) plays important roles in pathogenesis and progression of endometriosis[1]. Microsomal Prostaglandin E Synthase-1 (mPGES-1), producing proinflammatory PGE2, is upregulated in endometriotic lesions[2]. Disease models demonstrate reduced lesion growth in mPGES-1 KO mice[3] and attenuated pain with mPGES-1 inhibitor treatment[4]. Hence, mPGES-1 is a promising target for non-hormonal treatment of endometriosis.
Vipoglanstat is an orally available, potent inhibitor of human mPGES-1. Vipoglanstat has demonstrated excellent pain-relieving effects in several inflammatory pain models, including an endometriosis disease model.

Methodology: In a First-in-Human study healthy subjects were administrated single doses of 1-300mg or 20-180mg vipoglanstat over ten days to study safety, pharmacokinetics and pharmacodynamics of vipoglanstat.
In a Phase II placebo-controlled trial 69 patients with chronic inflammatory disease (systemic sclerosis) were dosed daily with 120mg vipoglanstat for 1 month. The primary objective in addition to safety was change in number of Raynaud attacks since inhibition of mPGES-1 also leads to increased biosynthesis of the endogenous vasodilatory mediator prostacyclin.
Urinary excretion of PGE2 and prostacyclin metabolites, and LPS-induced PGE2 production in whole blood were measured in both studies.

Results: Vipoglanstat was safe and well tolerated in healthy subjects and subjects with chronic inflammatory disease with similar adverse events profiles in placebo and vipoglanstat treated subjects.
Vipoglanstat fully inhibited blood mPGES-1 *ex vivo* (IC_{50} 0.3 nM) in these studies. Furthermore, urinary excretion of PGE2 metabolites was reduced by 57 %, while excretion of prostacyclin metabolites was increased by 50% in the patient study, however there was no effect on number of Raynaud attacks.

Conclusions: Vipoglanstat was safe and tolerable at doses giving full mPGES-1 inhibition supporting further development in endometriosis
A 4-months, placebo-controlled Phase II trial in endometriosis patients is planned to start during 2024 in Europe
Vipoglanstat has the potential to be a non-hormonal therapeutic option for women with endometriosis

Key words: clinical study, prostaglandin E2, mPGES-1

References:
[1]Sacco K et al, (2012) The role of prostaglandin E2 in endometriosis, Gynecol Endocrin, 28:2, pp. 134
[2]Rakhila et al, (2013) Identification of multiple and distinct defects in prostaglandin biosynthetic pathways in eutopic and ectopic endometrium of women with endometriosis. Fertil Steril 100(6), pp. 1650
[3]Numao A et al (2011) The inducible prostaglandin E synthase mPGES-1 regulates growth of endometrial tissues and angiogenesis in a mouse implantation model. Biomed & Pharmacother 65, pp. 77
[4]Koppitz M et al (2019) Discovery and optimization of pyridyl-cycloalkyl-carboxylic acids as inhibitors of microsomal prostaglandin E synthase-1 for the treatment of endometriosis. Bioorg Med Chem Lett 29, pp. 2700.

34. Effectiveness of Letrozole (LTZ) combined with Cabergoline (CBG) in Comparison to Dienogest (DNG) alone in Management of Deep Pelvic Pain (DPP) due to Endometriosis (EM

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Objectives: To investigate efficacy & safety of combined (LTZ) with (CBG) in comparison to (DNG) alone in treatment of (DPP) caused by (EM).

Materials & Methods: (45) patients, mean age of (39.4 ± 6.5 years) diagnosed with pelvic (EM) & suffering (DPP) were enrolled in a prospective controlled clinical trial for 3 months (M), & 3 (M) as follow-up. Exclusion criteria: treatment for (EM) 3 (M) before study including GnRH analogues, PV bleeding of unknown cause, undiagnosed origin of (DPP), and known systemic diseases.

Women were divided into 2 groups: (A) [22] received (LTZ) 2.5 mg daily & 0.5 mg (CBG) twice weekly for 3 (M)], and (B): [23], received only 2gm daily (DNG) for same period], all started from 1st day of period. Fortunately, none of patients in (A), but 2 in (B) were lost to follow-up. Assessment of pain severity for (A&B) after 3 (M) by using a 10 cm visual analogue scale, (VAS), recorded & compared with each other. The (VAS) scores categorized as none or mild (0–3), moderate (4–6), and severe (7–10) pain. Complications if any documented. Statistical analysis performed using SPSS packages for Windows. P-value significant if (< 0.05).

Results: A total (43) participants were available for analysis (95.5%). The VAS score of DPP after 6 (M) from starting treatment was significantly lower in (A) when compared to (B) ($P < 0.032$). The reduction of dysmenorrhea & dyspareunia was significantly greater in (A) than (B) ($P < 0.011$). Quality of life improved significantly in group (A) ($P < 0.05$). No major side effects were reported in both groups.

Conclusion: Combination of (LTZ) & (CBG) most effectively reduce the severity of (EM)-related pain symptoms in comparison to (DNG) alone with improvement quality of life. Both regimen showed an acceptable safety- profile.

Keywords: Endometriosis, Deep Pelvic Pain, Letrozole, Cabergoline, Dienogest

35. Mesenchymal Stem Cells from Menstrual Fluid are promissing candidates for developing non-invasive molecular diagnostic strategies

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Introduction. The low- or non-invasive procedures versus the actual standard ones would be an novel alternative to minimize material, social and emotional costs in early identification or efficient monitoring of endometriosis (EM). Studies supporting the retrograde menstrual concept showed differences between Mesenchymal Stem Cells from menstrual fluid (MensSCs) of donors with and without EM which can be exploited in diagnostic and teherapeutic management of EM. However, the use of MenSCs in identification of specific biomarkers for validation of EM implants as diagnostic tool was not experimentally demonstrated, so far, to our best kowledge.

Methods. MenSCs were islolated from menstrual fluid of 4 EM- and 4 normal-donors on density gradient on Ficoll-Paque Plus on special tubes (STEMCELL Technologies). Adherent cells were cultured on DMEM supplemented with amphotericin/penicilin, frozen after 2 passages and stored in liquid N_2. Isolated cell lines were characterized for expression of stem markers (flow-cytometry and Tissue FAXS), proliferative capacity (cell counts), colony forming (Crystal violet staining), proteome (Filter Aided Sample Preparation (FASP) protocol and mass spectrometry), data analysis (sum of value of spectral counts, ratio Sum Normal/Sum Pathological); target validation (western blotting on cell lysates).
Results. 1) a lab technology to isolate, characterize and manipulate MenSCs as cell lines from EM and non-EM donors was issued; 2) isolated MensSCs-EM were more proliferative than their counterparts from normal donors and form colonies; 3) proteome analysis revealed molecular targets with different expression in MensSCs from EM - versus non-EM donors; 4) ALDH1A1 had the best score from Proteome analysis and was validated as a downregulated target in EM MensSCs.
Conclusions. MenSCs represent a valuable source of markers exploitable for study of EM pathogenesis and development of a molecular diagnostic procedure. This is based on a feasible set up lab technology with translatable potential into a clinical protocol.
Keywords: menstrual-blood-derived stem cells, endometriosis, early diagnosis markers
Acknowledgments: This work was funded by Grant No 138-ENDOFERTIL –*Identification of cellular and molecular profiles in endometriosis for development of new personalized therapies for prediction of infertility (PN-II- PT-PCCA-2013-4-1348)*

36. Can the robot really reduce complications? A single surgeon's experience over two years

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Introduction/Background: Robotic surgery has become more available for minimally invasive gynaecology (MIGS) and endometriosis surgery. Published data remains mixed on whether Robotic surgery offers an advantage over conventional laparoscopy(1–3). SK began using the DaVinci Xi in March 2022 at a tertiary endometriosis and MIGS referral centre. This audit presents data on the centre's robotic caseload over two years.

Methods: The CEMIG London patient database was searched for cases between 01/01/2022 to 01/01/2024 comparing laparoscopic versus robotic procedures with proportion of caseload, disease classification, rectovaginal/bowel procedures and intra/postoperative complications.

Results: There were 243 Laparoscopic and 152 Robotic-assisted procedures, the proportion of robotic cases increased over time (2022 31.9% 2023 45.5%). Robotic-assisted cases were higher in endometriosis severity by several classification systems (#ENZIAN C3 38:28%, VNESS 4 POD 28:17 %, AAGL 4 76:58%). The proportion of shaves, discoid and segmental resections was higher in the robotic surgery cohort (65.8:46%). Although there was a higher percentage of all post-operative complications in the robotic cohort, the percentage of ≥Clavien-Dindo III complications was lower (0.6:2.47%).

Conclusion/Discussion: The increase in proportion of robotic cases over the two years is accounted for by the learning curve experienced by SK. The increased complexity in this cohort is perhaps a reflection on how the robotic approach lends itself to multidisciplinary surgery. Although the sample size is small, without formal statistical analysis, the reduced severe complication rate is a positive finding.

References:
1. Volodarsky-Perel A, Merlot B, Denost Q, Dennis T, Chanavaz-Lacheray I, Roman H. Robotic-assisted versus conventional laparoscopic approach in patients with large rectal endometriotic nodule: the evaluation of safety and complications. Colorectal Disease [Internet]. 2023;25(11):2233–42. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/codi.16785
2. Lawrie TA, Liu H, Lu DH, Dowswell T, Song H, Wang L, et al. Robot-assisted surgery in gynaecology. Vol. 2019, Cochrane Database of Systematic Reviews. 2019.
3. McCarthy A, Samarakoon D, Gray J, Mcmeekin P, McCarthy S, Newton C, et al. Robotic and laparoscopic gynaecological surgery: a prospective multicentre observational cohort study and economic evaluation in England. BMJ Open [Internet]. 2023;13(9). Available from: https://bmjopen.bmj.com/content/13/9/e073990

37. Aldo-keto reductase (AKR)1C3 in the self-perpetuating endometriosis environment

Gaity Ahmad, Jamal Tahar, Debbie Fischer, Alexander Kendall, Anna Nicolaou, Kay Marshall.

Introduction

Dysregulated prostaglandin (PG) biosynthesis is known to promote lesion growth, scarring and chronic pain in endometriosis. To further elucidate the underlying mechanisms, we investigated the contribution of aldo-keto reductase (AKR) 1C3, a PGF synthase that also mediates hormone transformation, and may play a crucial role in disease pathogenesis and recurrence.

Methods. Endometrial, endometrioma, peritoneal fluid and wash samples were obtained from consenting women at laparoscopic surgery (n=45). AKR1C3, FP receptors and housekeeping genes were analysed using qRT-PCR and proteins by ELISA and immunohistochemistry techniques. Peritoneal PGs were measured using liquid chromatography tandem mass spectrometry with electrospray ionisation (LC/ESI-MS/MS).

Results. AKR1C3 transcripts ($p<0.05$), proteins ($p<0.001$) and FP receptor mRNA ($p<0.05$) were upregulated in endometriomas compared to eutopic endometrium from women with and without endometriosis. Previous abdominal surgery, pelvic adhesions, pain and comorbidities had no effect on AKR1C3 expression, which was observed in glandular and luminal epithelia as well as the endothelium. The concentration of key PGs ($PGF_{2\alpha}$, PGE_2, PGI_2, 6-keto $PGF_{2\alpha}$ and TXB_2) in peritoneal fluid and washes also did not change with endometriosis or extent of pelvic adhesions. However, eutopic FP abundance positively correlated with patient-reported pain scores ($p<0.05$).

Conclusion. Overexpression of AKR1C3 in ovarian endometriomas supports its importance in the pathophysiology of the disease. Despite its PGF synthase activity and pro-inflammatory role, high AKR1C3 mRNA and protein expression did not translate to increased PGs within the peritoneal space. Interestingly, abundant eutopic rather than ectopic FP receptors related to chronic pelvic pain severity. This suggests that inhibiting AKR1C3 could help to alleviate both endometriosis progression and associated pain symptoms in this self-perpetuating disease.

38. Analysis Of Ultrasound-Guided Aspiration And Ethanol Sclerotherapy Of Ovarian Endometriomas

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Introduction/Background: The standard technique in the treatment of endometrioma has been laparoscopic cystectomy. Ultrasound guided aspiration and ethanol sclerotherapy could be an alternative in some women to avoid ovarian damage associated to cystectomy.

Objectives: The main objective has been to analyse indications, volume decrease, recurrence and fertility rates after ultrasound guided aspiration and ethanol sclerotherapy of ovarian endometriomas.

Methods/Methodology: Fifty patients with ultrasound guided aspiration of endometriomas between 2017 and 2024 were included in the study. Only endometriomas meeting IOTA criteria for benignity and ca125 lower than 150 U/ml or HE-4 with normal range were included.

Results: A total of 50 ovarian endometriomas were included. The average age was 34 years. Most frequent causes of indication for aspiration were dysmenorrhoea despite analgesics (48 %) and sterility (24 %).
The average volume of endometriotic content aspirated was 101.3 cc. Ethanol sclerotherapy was performed in 92 % of the cases, with an average time of action of 14.9 minutes.
The volume of the endometrioma after treatment decreased 92 % at 3 months, 93 % at 6 months and 88 % at 12 months. Endometriomas larger than 5 cm in diameter recurred significantly more than smaller than 5 cm (44 % vs 0%, $p < 0.05$).
The average visual analogue scale score for dysmenorrhea before aspiration was 4.80 and 3 months after procedure 2.20. Pain reduction after aspiration was statistically significant ($p < 0.005$).
Nineteen patients were seeking gestation. 36.8 % of these became pregnant after aspiration treatment (57.4 % spontaneously and 42.6% by assisted reproduction techniques).

Conclusions/Discussion: Ultrasound aspiration and ethanol sclerotherapy could be considered as an alternative technique to surgery in selected patients. The technique is safe and feasible, with a long term reduction of the endometrioma volume. Women with dysmenorrhea decreased pain significantly and almost one third of the women desiring pregnancy got pregnant after treatment.

39. SPECT-CT DETECTION OF ENDOMETRIOSIS SUBTYPES USING ^{99m}tc-MARACICLATIDE

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Introduction/Background: Advancements in imaging applications for endometriosis have been highlighted as a global endometriosis research priority[1]. The detection of superficial disease is a recognised limitation of existing imaging modalities[2]. SPECT-CT imaging with ^{99m}Tc-maraciclatide is proving successful in the detection of rheumatoid arthritis, resulting in the development of an exploratory study to assess its application to endometriosis[3]. ^{99m}Tc-maraciclatide binds with a high affinity to $\alpha_v\beta_3$, the most commonly researched angiogenic integrin.

Methods/Methodology: An exploratory study is being conducted in which 2-7 days prior to laparoscopy, 20 participants with known or suspected endometriosis receive a SPECT-CT scan with intravenous ^{99m}Tc-maraciclatide. Regions of interest (ROIs) are detected and correlated to surgical findings. Confirmatory immunohistochemical analysis is performed on collected tissue samples to provide in-vitro correlation.

Results: Preliminary imaging of the first ten participants has demonstrated the utility of ^{99m}Tc-maraciclatide in the in vivo detection of $\alpha_v\beta_3$ integrins in the endometrium and ectopic lesions. Initial analysis has associated certain ^{99m}Tc-maraciclatide ROIs with surgical observations of endometriomas, deep infiltrative disease, and superficial disease. However, the nuanced nature of the detected lesion variations remains to be fully investigated. Emerging patterns will be discussed, along with radiographic and surgical confirmation of ^{99m}Tc-maraciclatide localisation and the growing ideas on factors affecting the performance of the marker and its relevance in terms of clinical application.

Conclusions/Discussion: Preliminary findings suggest the detection of angiogenic integrins could serve as a non-invasive imaging test for endometriosis, potentially addressing the limitations in existing imaging techniques with the detection of superficial disease. As the study advances with increased participant numbers and in-depth analysis, insights into the clinical utility of this novel approach to endometriosis imaging are anticipated to emerge.

Keywords: Endometriosis, Non-invasive Diagnosis, SPECT-CT

References:

[1]Rogers PA et al. (2017). WES/WERF Consortium for Research Priorities in Endometriosis. Reprod Sci. 24(2):202-226.
[2]Becker CM et al. (2022). ESHRE Endometriosis Guidelines, Human Reproduction Open, 2022(2)
[3]Attipoe L et al. (2021). Imaging Neoangiogenesis in Rheumatoid Arthritis II (INIRA II): Whole-body Synovial Uptake of 99mTc-Maraciclatide Correlates with Power Doppler Ultrasound and Serum Neoangiogenic Biomarkers. American Coll. Of Rheum. ARC Convergence 2021. Abstract no: 0174

40. Robotic management of rudimentary uterus, colorectal and ileocolic excision of deep endometriosis lesions

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Background: To report a rudimentary uterus in an elderly patient with severe deep endometriosis and unique left kidney.

Methods: In a 51-year-old woman suffering from severe pain, constipation and abdominal bloating, there was recently revealed a right rudimentary uterus, stenotic colorectal and right colon endometriosis nodules and the absence of the right kidney. The patient had 3 previous pregnancies and one cesarian section, all of them located in the left hemi uterus, however uterine malformation has been overlooked. The diagnosis was recently stated by a MRI examination. Robotic management allowed the total hysterectomy and the segmental resection of the rectosigmoid, ileum and caecum.

Results: Surgical management was uneventful. Clinical outcome was favorable with a great improvement of the quality of life.

Conclusion: Rudimentary uterus horn can be identified in women from 13 to 50 year old and is frequently associated with extensive endometriosis lesions. Removal of the rudimentary uterine horn should be proposed, to release symptoms, to stop the development

of endometriosis lesions due to excessive retrograde blood flow and to avoid uterine rupture during early pregnancy when it is located in the uterine horn.

Keywords: rudimentary uterus, endometriosis, robot, MRI.

41. Surgical Management of Ovarian Endometrioma: Impact on Ovarian Reserve Parameters and Reproductive Outcomes

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Introduction. The aim of this abstract is to describe the various surgical methods of managing ovarian endometrioma (OMA) and investigate their impact on ovarian reserve and chances of conception, spontaneous or through artificial reproductive technology (ART).

Methods. Relevant search on Pubmed/Medline, including original research items published in English language and between 2010 and present day.

Results. Presence of OMA itself appears to lead to a reduction in anti-mullerian hormone (AMH) levels. Surgical management options of OMA, through minimally invasive techniques, include cystectomy, simple drainage of OMA, drainage of OMA with vaporisation of the cyst wall by laser, plasma energy or bipolar electrocoagulation, drainage of OMA with ethanol sclerotherapy and combination of the aforementioned techniques. Cystectomy remains the most commonly performed approach and may be associated with an increase in the chances of spontaneous conception. It also leads to a smaller risk of OMA recurrence, compared to other techniques.

However, it often leads to excision of healthy ovarian tissue and the greatest post-operative depression in AMH levels, albeit this effect might be transient and related to factors such as surgeon's experience and cyst size. Reduction of ovarian volume and reduced response to ovarian hyperstimulation post- cystectomy have been described. Use of sutures, vasopressin or various sealing agents for haemostasis may reduce the need for use of bipolar energy, albeit their protective effect on ovarian reserve has not been clearly demonstrated. Various studies have reported an increase in the antral follicular count (AFC) post- cystectomy. Compared to bipolar energy, vaporisation of the OMA wall by laser or plasma energy produces a more superficial effect, thus causing less damage to underlying healthy ovarian cortex.

The aforementioned alternative approaches to cystectomy may lead to a smaller post-operative reduction of ovarian reserve, useful in the ART setting, however, are generally associated with smaller chances of spontaneous conception and higher risk of recurrence. The post-operative reduction on ovarian reserve parameters is, logically, higher in women operated on for bilateral endometriomas and, in case of bilateral OMA cystectomy, may even lead to an earlier age of menopause.

Conclusion. Various approaches are available in the surgical management of OMA. Cystectomy, generally, leads to a smaller risk of recurrence and higher chances of spontaneous conception, however, at an expense of greater post-operative reduction in ovarian reserve. Alternatives to cystectomy, as described above, may cause less reduction in ovarian reserve and may, therefore, be more appropriate in certain groups, such as women with low pre-operative AMH levels. Whatever technique is chosen, meticulous surgical technique remains of paramount importance.

Keywords. Endometrioma, cystectomy, fertility

42. A Double-Blind, Randomized, Phase 3 Extension Study To Assess Long-Term Effects Of Linzagolix In Women With Endometriosis-Associated Pain

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Introduction: EDELWEISS 6 was a prospective, randomized, double-blind extension study of EDELWEISS 3. Women with moderate-to-severe endometriosis associated pain (EAP) having completed EDELWEISS 3 were invited to enter this extension study to assess long-term efficacy and safety of linzagolix, an oral GnRH antagonist.

Methods: After 6-month treatment in the main study, women could enter the 6-month treatment in EDELWEISS 6. Women received daily either linzagolix 75 mg alone or 200 mg plus add-back therapy (ABT; 1mg estradiol/0.5mg norethindrone acetate) for 6 additional months. Women on placebo in the main study were randomized to either linzagolix dose.
Co-primary endpoints were a clinically meaningful reduction from baseline in dysmenorrhea (DYS) and non-menstrual pelvic pain (NMPP) up to Month 12 along with a stable or decreased use of analgesics for EAP, measured daily on a 4-point Verbal Rating Scale. Clinically meaningful reduction thresholds had been established in the main study as a decrease of 1.1 for DYS and 0.8 for NMPP.

Results: 353 women were treated. Demographics and baseline pain were comparable to what had been reported for EDELWEISS 3. At Month 6, the beginning of the extension study, 84.7% of women in the LGX 200mg+ABT group demonstrated a meaningful reduction in DYS which increased to 91.0% at Month 12. In the LGX 75mg group, the proportion of subjects was 49.6% at Month 6 and 55.9% at Month 12. For NMPP, at Month 6, 61% of subjects in the LGX 200 mg+ABT group had a meaningful reduction and 67.6% at Month 12. In the 75mg group, the proportion of subjects was 54.0% at Month 6 and 59.5% at Month 12.
Linzagolix was well-tolerated over 12 months of treatment.

Conclusions: Improvements observed at Month 6 in DYS and NMPP generally increased at Month 12 in both linzagolix 75 mg and 200 mg+ABT groups.

43. The clinical significance of subtle distal fallopian tube abnormalities: a multicenter prospective observational study

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Introduction. Subtle distal fallopian tube abnormalities are a group of diseases characterized by subtle variations in tubal anatomy. The clinical significance of these abnormalities needed to be studied. The purpose of this multicenter prospective observational study was to investigate whether subtle distal fallopian tube abnormalities are related to infertility and endometriosis.

Methods. The investigation was carried out in five medical centers in China and France from February to July 2021 and included reproductive-age patients who underwent gynecological laparoscopy. Subtle abnormalities included Morgagni hydatids, fimbrial agglutination, tubal diverticula, accessory ostium, fimbrial phimosis, and accessory fallopian tube.

Results. 642 patients were enrolled in the study, and 257 (40.0%) were diagnosed with subtle tube abnormalities. Tubal Morgagni hydatids was the most common abnormality (22.7%; n=146), followed by fimbrial agglutination (19.8%; n=127), tubal diverticula (6.9%; n=44), accessory tube (2.0%; n=13), and tubal accessory ostium (1.9%; n=12). Fimbrial phimosis was the least common abnormality (0.3%; n=2). The prevalence of subtle fallopian tube abnormalities was significantly higher among infertile patients (188/375, 50.1%) than non-infertile patients (69/267, 25.8%, 2=38.332, P=0.000). 209 patients were diagnosed with endometriosis during surgery, and the prevalence of subtle abnormalities was significantly higher in the endometriosis group than in those without endometriosis (61.2%, [128/209] vs. 29.8% [129/433], P=0.000).

Conclusion. Higher prevalence of subtle tubal abnormalities suggest that they may contribute to infertility.They are highly related to endometriosis and indicate fimbrial abnormalities of endometriosis.

Keywords: Fimbrial agglutination, tubal diverticula, tubal accessory ostium

44. Association between chronic endometritis and endometriosis: two sides of the same coin?

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Introduction. Both chronic endometritis and endometriosis are found in high prevalence in infertile patients. The association and the co-existence of these two entities are poorly evaluated. The aim of this systematic review and meta-analysis was to examine the association between chronic endometritis and endometriosis and to find the prevalence of chronic endometritis in women with endometriosis.

Methodology. A systematic electronic search was conducted using the MEDLINE, Scopus and Cochrane databases up to May 2022. Observational studies which examined the prevalence of CE in women with endometriosis were included. Newcastle-Ottawa Scale was used for the quality assessment. Odds ratios (OR) with 95% confidence intervals (CIs) for dichotomous outcomes and overall prevalences with 95% CIs were calculated.

Results. 855 studies were identified, of which six studies were included in the systematic review and five in the meta-analysis. The prevalence of chronic endometriosis in women with endometriosis was 28%, with higher frequency observed in women with endometriosis rASRM stage III-IV (43%) in comparison to women with endometriosis rASRM stage I-II (25%). The meta-analysis showed a significantly higher chronic endometritis in women with endometriosis in comparison to the control group (five studies, 264 endometriosis vs. 435 control, OR 2.07 CI 95% 1.11-3.84, I2 43%, p=0.02).

Conclusions. The present meta-analysis showed a significantly higher risk of chronic endometritis in women with endometriosis in comparison to the control group. These findings contribute to a better understanding of the causes and consequences of endometriosis and chronic endometritis and may help in the development of more efficient treatment strategies for women with associated infertility.

Keyword. Endometriosis, chronic endometritis, plasma cells, CD-138, infertility, implantation failure

45. Bladder Endometriosis And Vesicouterine Pouch Endometriosis: Surgical Outcomes And Symptom Diversity

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Introduction: Urinary bladder endometriosis (BE) is a rare but clinically significant type of endometriosis. Bladder involvement may be caused by the invasion of endometriotic implants from the vesicouterine pouch (EVUP) [1-3]. Our study aimed to assess the outcomes of BE and EVUP surgical excisions.

Methodology: 22 patients who underwent surgical treatment at our Department from January 2018 to September 2023 were included. Patients were divided into BE and EVUP groups. A detailed patient history was taken during surgery admission, follow-up after 6 months and in January 2024. Moreover, patients filled-in questionnaires regarding their pre and postoperative symptoms using NRS scale.

Results: Patients with BE (n=12) presented the following median intensity of symptoms before vs after surgery: dysmenorrhoea (8.5 IQR 0-10 vs 0 IQR 0-2; p=0.012), intermenstrual pain (1 IQR 0-8 vs 0 IQR 0-0; p=0.027), dysuria (8.5 IQR 2-9.5 vs 0 IQR 0-0; p=0.005), dyschezia (0 IQR 0-4.5 vs 0 IQR 0-0), dyspareunia (0 IQR 0-4.5 vs 0 IQR 0-1). Hematuria was observed in 1 patient with BE, 4 other patients were suffering from frequent urination and 2 of them had urinary incontinence. Moreover, 50% of patients after BE surgery had both reduced occurrence of urinary tract infections and better sleep quality. The recurrence of dysuria was

observed in 25% of BE patients after an average of 28 months. Patients with EVUP (n=10) presented the following symptoms: dysmenorrhoea (8 IQR 7-8 vs 0 IQR 0-4.5; p=0.018), intermenstrual pain (5 IQR 5-6 vs 0 IQR 0-0; p=0.012), dysuria (0 IQR 0-0 vs 0 IQR 0-0), dyschezia (0 IQR 0-5 vs 0 IQR 0-0), dyspareunia (0 IQR 0-2 vs 0;IQR 0-0). In 2 patients classified as BE concomitant presence of EVUP was observed.

Conclusions: Despite the similar location of the endometriotic lesions in BE and EVUP, the symptoms were significantly different. Dysuria which would appear in patients with EVUP might suggest BE development. Surgery is an effective way of endometriosis management for both BE and EVUP.

References:
[1] Leonardi M. et al. (2020). Endometriosis and the Urinary Tract: From Diagnosis to Surgical Treatment. Diagnostics (Basel), 30;10(10):771 [2] Granese, R. et al. (2008). Bladder endometriosis: laparoscopic treatment and follow-up. European Journal of Obstetrics and Gynecology and Reproductive Biology, Volume 140, Issue 1, 114 – 117. [3] Gui B. et al. (2017). Shining light in a dark landscape: MRI evaluation of unusual localization of endometriosis. Diagn Interv Radiol. 23(4):272-281.

46. Surgical Management of Ovarian Endometriomas: A Service Evaluation of Clinical Outcomes at UHS

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Background: Ovarian endometriomas are an enigmatic condition, known to cause dysmenorrhea and reduced fertility. The surgical procedures to treat an endometrioma are excision of the endometrioma, unilateral or bilateral salpingo-oophorectomy, subtotal hysterectomy, and total hysterectomy.

Aims: The primary aim of this study is to assess the outcomes of each of these surgical procedures on patients, specifically focusing on reducing pain and fertility improvement. This study also observed the rate of unexpected ovarian cancers discovered at surgery.

Methods: We reviewed the follow-up records of patients undergoing surgery for endometriomas at Princess Anne Hospital between 01/01/15 to 31/12/18, (n=208), to see the impact of surgery on reducing pain post-surgery, conception rates and any discoveries of ovarian cancer.

Results: Overall, 58.7% of patients had a positive outcome after surgery. Our results showed that a total hysterectomy had the highest rate of reduced pain after surgery (n=54, 74.1% improved). Followed by a subtotal hysterectomy (n=28, 67.9% improved), then unilateral or bilateral salpingo-oophorectomies (n=23, 56.5% improved), then the excision of the endometrioma (n=103, 48.5% improved). Of the patients noted as trying to conceive, 58.0% were successful (n=50, 29 successful). Of these, 79.3% conceived naturally (23 patients), and 20.7% used ART (6 patients). This study also found that 1 patient had an unexpected case of ovarian cancer found at surgery (n=208, 0.48%). Furthermore, it was also observed that 12.5% of patients did not have sufficient notes on pain after surgery in their records.

Conclusions: Overall, our findings indicate the efficacy of surgery for ovarian endometriomas in reducing pain and improving fertility. However, these data also emphasise the need for consistency and standardisation in reporting, to improve care for those suffering from endometriomas.

47. Intra-operative and post-operative complications of endometriosis excision using the SOSURE approach; A single-surgeon retrospective series of 1116 procedures over 8 years

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Background: Endometriosis surgery outcomes have been widely studied, yet heterogeneity in terminology and techniques persist. This study focuses on the perioperative outcomes of a single surgeon using the same structured approach (SOSURE: Survey & Sigmoid mobilisation, Ovarian mobilization, Suspension of uterus and ovaries, Ureterolysis, Rectovaginal and pararectal space development, Excision of all visible disease) and adheres to the recent standardized terminology proposed by international gynecological and endometriosis societies.

Methods: A quality improvement study was conducted retrospectively from January 2015 to January 2023 . Data collection involved two databases: the National British Society for Gynaecological Endoscopy (BSGE) database and a more comprehensive locally kept database. The methodology also integrated four endometriosis staging systems.

Main outcome measures: Intraoperative and postoperative complication rates

Results: Between 2015 and 2023, 1047 women underwent 1116 endometriosis procedures in various UK hospitals with SK as primary surgeon. Exclusions totaled 20 due to missing records and specific surgical criteria. The rate of major postoperative complications (Clavien-Dindo grade 3a and 3b) was 1.5% and minor post-operative complications (Clavien-Dindo grade 1 and 2) were seen in 13.8%. No Clavien-Dindo grade 4 or 5 complications were noted.

Conclusion: Our study has shown a low complication rate in endometriosis surgery. Adherence to a structured approach and performing high volume of cases may be contributing factors to this.

48. Assessment of pain during diagnostic and surgical hysteroscopy under local anesthesia

Lach Agnieszka, Małgorzata Kampioni, Adam Malinger, Adrian Nowak, Maciej Wilczak

Background: To evaluate the degree of pain during each step of office hysteroscopy procedure with combined intravenous analgesic medication and intracervical anesthesia. Hysteroscopy is a minimally invasive procedure currently recognized as the gold standard which allows for minimally invasive diagnosis and surgical management of endocervical and intrauterine pathology in pre- and postmenopausal patients. Modern mini-hysteroscopies enable the procedure to be performed without the need to dilate the cervical canal, and to perform this procedure without the use of short-term general anesthesia, but only with local anesthesia.

Method: The analysis included 170 patients hospitalized at the Department of Maternal and Child Health of the Karol Marcinkowski Medical University in Poznan. The operators were people with varying experience in performing hysteroscopy. The procedure was carried out using the "GUBBINI SYSTEM - Mini Hystero-Resectoscope." The VAS pain scale was used to assess pain complaints.

Results: The treatments lasted from 2 to 45 minutes. There were no significant differences in procedure time depending on the type of hysteroscopy. Pain during the administration of anesthesia was assessed at an average of 2 points. In most cases, the break period and vaginoscopy were assessed as 0 points in the VAS scale. The passage through the cervical canal on average was rated at 2 points and the procedure itself was rated on average at 3 points. There were no differences in the level of pain assessment depending on the type of minihysteroscopy performed.

Conclusion: The procedure of diagnostic and operative mini-hysteroscopy, under local, paracervical anesthesia using lignocaine with prior administration (about 30 minutes before the procedure) of 100 mg of ketoprofen seems to be the optimal peri-procedure analgesic treatment. The possibility of using hysteroscopes with a reduced diameter and a paracervical block can be successfully used in outpatient medical practice.

49. Defining the phenotype of bowel dysfunction in patients with endometriosis

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Introduction: Bowel symptoms often accompany pelvic pain in patients with endometriosis and adenomyosis, however the pathophysiology of these symptoms is unclear. The aim of this study is to determine the nature of gut physiological dysfunction in patients with endometriosis and compare this to patients with no abnormality and presumed functional causes for their symptoms.
Methods: Patients were recruited at the point of referral to our tertiary endometriosis centre for pelvic pain. Inclusion criteria: aged 18-50 years, the presence of bowel symptoms, and no known bowel disease. Participants completed symptom questionnaires (0-10 numeric rating scale, IBS-SSS, PACSYM, HADS, VSI) and underwent a bowel transit (Sitz marker) test, high resolution anorectal manometry (HRAM) with electrosensation, and MRI proctogram. They also underwent an abdomino-pelvic MRI scan to detect endometriosis lesions and other pathology. Patients with and without pathology on MRI were compared using Fischer's and Mann-Whitney-U tests.
Results:A total of 101 patients were recruited, of whom 95 underwent a bowel transit study, 74 underwent HRAM, and 82 underwent MRI. Mean age was 32.5 years (SD:7.2) and BMI was 26.8 (SD:7.9). Their distribution of endometriosis is shown in Figure 1.
Patients with endometriosis or adenomyosis on MRI had a particular symptom phenotype:

- Worse chronic dyschaezia (3.8/10 vs 2.3/10, p=0.026)
- Less fluctuation in nausea with the menstrual cycle (1.0/10 vs 2.9/10, p=0.016).

In terms of physiology, patients with endometriosis or adenomyosis on MRI:

- were more likely to have slow bowel transit than those without (38.3% vs 15.6%, p=0.043)
- constipation scores correlated with bowel transit time (rho=0.316, p=0.031)

- had lower rates of defaecatory dyssynergia (22.5% vs 54.5%, p=0.023)
- often had rectal hypersensitivity to distension, but at a similar prevalence to those without disease on MRI (36.6% vs 26.9%, p=0.439)
- in particular, patients with deep rectovaginal endometriosis had significantly lower threshold to electrical stimulation compared to those with no disease (12.9 vs 20.2 milliAmps, p=0.017).

Conclusion: Different pathophysiological mechanisms underlie bowel symptoms in patients with adenomyosis or endometriosis on MRI disease compared to those with presumed functional origins of their symptoms – in particular the former seem to have slow gut transit with a hypersensate rectum and non-dyssynergic evacuation. This suggests that abdomino-pelvic MRI should be used to quantify endometriosis burden in female patients with pain and bowel symptoms, as this has implications for the management of patients with proven endometriosis.

50. Optimizing Access @ Laparoscopy for Deep Endometriosis Surgery

Mangeshikar Prashant, Abhishek Mangeshikar

Tissue Exposure at Laparoscopic and Robotic surgery is of utmost importance in any surgery. Traction on tissues exposes the altered anatomy in great specific detail. This is paramount in Deep infiltrating endometriosis (DIE) of the pelvis. Different strategies were employed to provide optimal exposure in DIE involving the uterus, ovaries, rectum, sigmoid, bladder, ureter and the cul-de-sac.
Various gadgets viz Uterine manipulators or suture suspension of the uterus and the ovaries and traction on bowel with simple retractors enabled optimal exposure and access facilitating precise dissection of the pathology. This rendered safe robotic as well as laparoscopic surgeries in cases of DIE causing a frozen pelvis.
Short videos will demonstrate the various techniques employed at laparoscopic as well as robotic surgeries.

51. Bowel Endometriosis: Unraveling The Link Between Lesion Size And Symptomatic Burden

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Introduction: Bowel endometriosis, a complex condition where endometrial tissue implants on the intestinal tract, affects a significant portion of women with endometriosis. While the presence of this condition can be confirmed through diagnostic tools, understanding the full impact of bowel endometriosis requires close examination of symptom severity. This study delves into the crucial question: does the dimension of the lesion in bowel endometriosis correlate with the intensity and spectrum of experienced symptoms?

Methods: By meticulously analyzing the dimensions of bowel endometriosis lesions alongside the severity and spectrum of reported symptoms. Our investigation delves into a comprehensive range of symptomatic domains, including pelvic pain and bowel disturbances (e.g., constipation, diarrhea). Additionally, we explore the impact of lesion size on the overall quality of life for women affected by bowel endometriosis.

Results: This study analyzes a cohort of 180 patients diagnosed with intestinal endometriosis (bowel or small intestine) who underwent minimally invasive surgery (laparoscopic or robotic). Rectosigmoid resections were performed in 63.8% cases. 60% of cases were classified as ASRM IV, 17.22% of which had rectal involvement with multiple nodules (2-3 or more lesions). All deep endometriosis lesions were classified according to the #Enzian classification system, with 59.66% of intestinal lesions classified as C3 grade. The mean size of the rectal lesion was 25.76 mm. Ileal lesions were identified in 8.33% cases. No statistically significant association was found between the size of the rectal lesion and dysmenorrhea, dyspareunia, chronic pelvic pain, or mean of KESS or GIQLI scores. The mean scores assessing quality of life (including intestinal) are 9.29 for KESS and 80.23 for GIQLI.

Conclusion: Common complaints include chronic pelvic pain, especially during bowel movements, bloating, constipation or diarrhea. These diverse and cyclical symptoms can lead to immense physical and emotional distress. Current evidence suggests that in women diagnosed with pelvic endometriosis, the diverse array of digestive symptoms they experience may primarily arise from cyclical inflammatory processes causing irritation of the digestive tract, rather than direct disease infiltration into the rectum itself.

Keywords: bowel endometriosis, lesion size, symptomatology, minimally invasive surgery

52. EDELWEISS 3: A Randomized, Placebo-Controlled, Phase 3 Trial Testing Linzagolix In Women With Endometriosis-Associated Pain

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Introduction: EDELWEISS 3 was a Phase 3, prospective, double-blind, placebo-controlled randomized study designed to investigate linzagolix, an oral GnRH antagonist,in women with moderate-to-severe endometriosis associated pain (EAP). Participants had at least moderate dysmenorrhea (DYS) and moderate non-menstrual pelvic pain (NMPP) for ≥2 days each over 2 menstrual screening cycles.

Methods: Women were treated for 6 months with linzagolix 75mg, 200mg plus add-back therapy (ABT; 1mg estradiol/0.5mg norethindrone acetate) or placebo. Co-primary endpoints were clinically meaningful reduction from baseline at Month 3 in DYS and NMPP measured daily on a 4-point Verbal Rating Scale, along with a stable or decreased use of analgesics for EAP. The thresholds for a clinically meaningful reduction at Month 3 were established as a decrease of 1.1 for DYS and 0.8 for NMPP.

Results: 484 women were randomized and treated. The mean (SD) age was 34.9 (6.6) years and mean (SD) BMI was 24.3 (5.0) kg/m2 with 99% of subjects being White. At baseline, mean (SD) pain scores for DYS and NMPP were 2.28 (0.42) and 1.77 (0.45), respectively. At Month 3, women receiving 200mg+ABT demonstrated statistically significant improvements in DYS and NMPP (estimated responder rates of 72.9% and 47.3%, respectively) versus 23.5% and 30.9% for placebo ($p<0.001$ and $p=0.007$, respectively). Responder rates for the 75mg dose were 44.0% and 38.9% ($p<0.001$ and 0.279, respectively). The response to treatment was maintained at Month 6 with responder rates of 80.0% ($p<0.001$) and 57.1% ($p=0.003$), respectively, for 200mg + ABT and 49.5% ($p<0.001$) and 52.2% ($p=0.036$), for 75mg, versus 23.5% and 38.5%, respectively, for placebo.

Conclusions: Linzagolix 200mg + ABT treatment significantly improved both DYS and NMPP with maintained pain reduction at Month 6. At Month 3, 75mg improved DYS but not NMPP with a trend to improvement at Month 6.

53. Familial Inguinal Endometriosis: A Case Report and a-Literature Review

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Introduction. Inguinal endometriosis (IE) is a rare and challenging condition to diagnose, leading to instances of oversight and insufficient surgical intervention. In this study, we aimed to present a rarely seen case of familial IE and to summarize the existing literature.

Case Report. A 28-year-old Caucasian woman came to our clinic complaining of a palpable mass and menstrual-related pain in her right groin. Since the age of 13, she has had a palpable cystic mass in his right groin area, approximately half a centimeter in size, that has grown over the years. The patient described dysmenorrhea, dyspareunia, pelvic pain, and pain in the right inguinal region. Intriguingly, both the 18-year-old sister and 23-year-old cousin were found to have masses in the same location and exhibited similar symptoms, leading to a diagnosis of endometriosis based on magnetic-resonance-imaging (MRI). On physical examination, a cystic lesion of approximately 5 cm was palpated in the right inguinal region. The preliminary diagnosis of IE was made using ultrasound and MRI. Therefore, the IE lesion was surgically excised, and the diagnosis of IE was confirmed pathologically.

Conclusion. Inguinal endometriosis is a rare form of extra-pelvic-endometriosis, marked by a small, tender, and immobile mass, mostly seen in the right inguinal area. Individuals may experience menstrual-cycle-related-pain, often radiating to the hip and accompanied by lower abdominal tenderness, dysmenorrhea and lower-abdominal-pain. Treatment typically entails surgery. The literature provides limited data, mainly from case reports. Currently, there is no available data on familial IE. In the treatment, it is essential to completely remove the mass and the entire extraperitoneal portion of the round ligament through an anterior approach to prevent postoperative residual symptoms and recurrence. Achieving reliable surgery hinges on cultivating a high level of suspicion and enhancing diagnostic precision for IE before the surgical procedure.

Keywords: Familial-inguinal-endometriosis, laparoscopy, pathology

54. Colorectal Endometriosis: How Does The #ENZIAN Classification Correlate with the Symptoms?

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Introduction: Colorectal endometriosis occurs when the endometriotic glands and stroma are localized in the muscular layer of the bowel's wall (1). Colorectal endometriosis constitutes 8-12% of all endometriosis cases (2). The #ENZIAN classification provides a comprehensive description of the endometriotic lesions and allows a preoperative classification by ultrasound and magnetic resonance imaging (3). The aim of this work is to correlate the symptomatology of rectal endometriosis patients with the corresponding #ENZIAN classification.

Methods: This is a retrospective cohort study that included all patients diagnosed with colorectal endometriosis that were admitted to the obstetrics and gynecology department of Bethesda Hospital Duisburg. The electronic patients' records were reviewed and data regarding the patients' demographics, symptomatology, and management were collected. The patients were stratified according to the treatment approach and also following the #ENZIAN C classification. Descriptive statistics, metric and nonparametric tests were applied as appropriate. The level of significance was adjusted at $p< 0.05$.

Results: A total of 105 patients were diagnosed with rectal endometriosis. The mean age at presentation of the patients was 35.58 ±7.53 years. The most commonly reported bowel symptoms were dyschezia (40.7%), constipation (14.2%) and hematochezia (8.3%). Dyschezia and hematochezia were significantly more prevalent in patients with the #Enzian classification C3 than C1-C2 (67.5% vs 31.8%, $p < 0.001$, and 17.9% vs 4.8%, $p= 0.036$, respectively). Binary logistic regression demonstrated that when dyschezia exists, patients are 3.65 times more likely to have the classification #Enzian C3 (OR= 3.65, 95% CI: [1.58 – 8.44], $p= 0.003$).

Conclusions: The #Enzian classification seems to correlate well with bowel symptoms. Patients presenting with dyschezia are prone to have larger rectal endometriosis nodules (#ENZIAN C3). It is important to keep such correlations in mind to improve the preoperative diagnosis of rectal endometriosis. Larger studies are necessary to confirm our findings.

References:

1. Chapron C, Bourret A, Chopin N, Dousset B, Leconte M, Amsellem-Ouazana D, et al. Surgery for bladder endometriosis: long-term results and concomitant management of associated posterior deep lesions. Human reproduction (Oxford, England). 2010;25(4):884-9.
2. Abrão MS, Petraglia F, Falcone T, Keckstein J, Osuga Y, Chapron C. Deep endometriosis infiltrating the recto-sigmoid: critical factors to consider before management. Human reproduction update. 2015;21(3):329-39.
3. Keckstein J, Saridogan E, Ulrich UA, Sillem M, Oppelt P, Schweppe KW, et al. The #Enzian classification: A comprehensive non-invasive and surgical description system for endometriosis. Acta obstetricia et gynecologica Scandinavica. 2021;100(7):1165-75.

55. The Association Between Tissue Proliferation (Ki-67) Index And Symptoms In Women With Surgically Confirmed Endometriosis

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Introduction. Proliferation in endometriosis tissue leads to localized immune and inflammatory response with the production of cytokines, chemokines, and prostaglandins. A correlation between higher proliferation and effectiveness of hormonal therapy was previously reported.
There are limited data evaluating the association between endometriosis tissue proliferation and symptoms. The aim of the study is to evaluate the association between endometriosis related symptoms and endometriotic tissue KI-67 proliferation index in immunohistochemistry staining.

Methods. Retrospective analysis included 50 women underwent laparoscopic excision of endometriosis. The number of specimens retrieved per patient ranged from 1 to 3. Histological specimens were subsequently evaluated for Ki-67 staining. The highest Ki-67 proliferation index for each patient was recorded. The association between Ki-67 proliferation index and endometriosis related symptoms was evaluated.

Results. The mean age was 32,3±6,9 years. No significant difference was found between superficial and deep infiltrating endometriotic tissues regarding median Ki-67 proliferation index (6.5% vs. 9.3%; p=0.265). In women with dyspareunia, the median Ki-67 proliferation index was significantly lower than women without dyspareunia (6% vs. 13%; p=0.008). No significant

association was found between Ki-67 proliferation index and presence other symptoms (dysmenorrhea, dyschezia, diarrhea, constipation, and dysuria).

Conclusion. Our results could help to explain the difficulty in the medical treatment of dyspareunia due to low proliferation in endometriosis tissue. The mechanism of pain may differ from proliferation and inflammation. Surgical excision of endometriosis and pelvic muscle relaxation exercises could be considered in women with endometriosis and dyspareunia symptom.

Keywords: endometriosis; proliferation; Ki-67

56. Endoscopic repair of rectovaginal fistula using otsc clip

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Introduction: Enterovaginal fistulas are an uncommon complication of surgical procedures for endometriosis. In the literature, the incidence of rectovaginal fistula in discoid rectosigmoid resection for endometriosis ranges between 3.6-7.2%. The incidence of dehiscence and leak in colorectal resections for oncological indication is in the range of 10-20%. Risk factors for fistula include resection near the anus and concomitant vaginal opening. The standard surgical solution is resuture of the affected part of the bowel and suture of the vagina, often with insertion of an omental or mesenteric flap. Protective ileostomy is usually included in the procedure.

Case report: We present a case report of enterovaginal fistula resolution by insertion of an OTSC-clip and creation of a protective ileostomy. This was a 31-year-old primipara woman who presented with enterovaginal fistula manifestation 10 days after a discoid rectosigmoid resection, bilateral SU ligament ureterolysis with vaginal shaving. Antibiotics were administered and diagnostic laparoscopy was performed the following day without finding stercoral peritonitis. A protective ileostomy was created. Subsequently, with an interval of 7 days, coloscopy was performed with direct verification of the fistula site. The fistula margins were treated with argon plasma coagulation and the fistula was closed by loading an OTSC-clip. The patient was discharged to home care on the first postoperative day. Almost immediately the fistula symptoms subsided and the patient underwent a control enterography with subsequent ileostomy closure on day 33. No recurrence of fistula occurred after the procedure.

Conclusions: In case of extraperitoneal rectovaginal fistula, one of the treatment options is endoscopic loading of OTSC clip

57. Impact Of The Minimally Invasive Endometriosis Surgery On Sexual Function - Correlation With #Enzian(S) Classification

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Introduction/Background: Endometriosis significantly affects several domains of sexual function. To our knowledge, there is no available data correlating female sexual function with the #ENZIAN(s) classification.
The aim of this study was to correlate #ENZIAN(s) with the postoperative female sexual function.

Methods/Methodology: 134 patients were qualified for laparoscopy due to endometriosis suspicion, with significant pain resistant to conservative treatment or infertility. Surgery included the complete resection of the visible superficial and deep endometriotic nodules. The patients with concomitant hysterectomy were not included to the study. Sexuality and quality of life were assessed before (max. 4 weeks) and after the surgery (3-4 months) using Female Sexual Function Index and visual analogue scale (0-10).

Results: Among the evaluated domains: desire, orgasm, satisfaction, pain and total score there was significant improvement after the surgery (3.48vs3.69,p=0.014;2.2vs3.27,p=0.00; 4.02vs4.35, p=0.00;3.91vs4.55,p=0.001;20.79vs22.7,p=0.00; mean, respectively). The only domain with no significant difference was arousal. There was significant deterioration of lubrication (3.26vs2.93,p=0.027). The size of removed endometrioma on the left side was positively correlated with improved desire after surgery (0.07vs1.15vs1.6,$p<0.05$). The opposite result was found on the right side – decline correlated with endometrioma diameter (domain O1-1.27 vs O2-0.25 vs O3-0.6, $p<0.05$). Depending on the degree of the uterosacral ligament involvement on the left side the significant improvement of the pain and total score domain (domain B1-2.05 vs B2-0.42 vs B3-0.24, $p<0.05$) was found. On the right side there was significant deterioration of all domains except pain, if the B3 nodule was removed.

Conclusions/Discussion: The surgery for endometriosis is beneficial for patients' sexual function. The effect of the surgery depends on the side and size of removed endometriotic lesions defined by #ENZIAN(s). The transfer of these data after further studies to #ENZIAN(u) or (m) classification could predict the effect of surgery on specific sexual function domains.

Keywords: endometriosis, sexual function, laparoscopy

58. Correlation of deep colorectal endometriosis location and lesion size with gastrointestinal function impairment - a prospective cohort study.

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Objectives: Deep colorectal endometriosis (DE) is frequently associated with severe pain symptoms and impaired gastrointestinal (GI) function. We aimed to evaluate a possible correlation of lesion location and size (according to the #Enzian classification) with preoperative symptoms.

Methods: Consecutive undergoing surgical treatment for colorectal DE were evaluated presurgically using lower anterior resection syndrome (LARS) and NAS pain scores. DE lesion location reflected by distance from the anal verge and size were analyzed intraoperatively.

Results: From April 2017 to May 2022, 162 women underwent surgical treatment for colorectal DE, out of which 151 patients were finally included in the study. No statistically significant correlation was observed between lesion size or location and GI function impairment reflected by LARS scores (p=.868, p=.185). Furthermore, no significant correlation was observed when merging two severeity grades (#Enzian compartment C1 and #Enzian compartment C2) versus #Enzian compartment C3 (p=.606) regarding differences in GI function. Preoperative dyschezia were neither dependent on lesion size (p=.265) nor anatomical height (p=.892).

Conclusions: Our results suggest that neither the extent of pain symptoms nor GI function impairment likely to be caused by colorectal DE do depended on lesion size or location. As a consequence, these parameters should be interpreted with caution in clinical decision making processes.

Keywords: bowel endometriosis, LARS, Enzian

59. Diaphragm endometriosis: Random localization or extended form of pelvis endometriosis.

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Objective: The aim of this study was to investigate and present the clinical characteristics of diaphragm endometriosis, to approach the pathogenetic mechanisms, and to answer the question of whether this disease can be considered an extended form of pelvic endometriosis.

Study design: It was a retrospective comparative one-to-one analysis of 202 cases. Two groups of patients were compared: Group 1 patients with diaphragm endometriosis vs Group 2 (control group) with pelvis endometriosis, each with 101 patients.

Results: Patients with diaphragm endometriosis had extreme significantly higher prevalence of severe pelvis endometriosis included deep infiltrated endometriosis and severe adhesions in term of complete Douglas obliteration (p value = 0.0001). There was neither age nor BMI difference in two groups. Besides of cyclic shoulder or upper abdomen pain there was no difference of symptoms.

Conclusion: Diaphragm endometriosis is a rare condition with an approximate prevalence of 1.1% of all endometriosis cases. Since the symptoms are very specific and patients do not associate the pain with diaphragmatic endometriosis, the symptoms should be asked about explicitly. If patients with diaphragmatic endometriosis have no symptoms, the lesions do not necessarily need to be removed. The pathogenesis is still unclear. The authors of this study consider this disease to be an extended form of severe pelvic and deep infiltrated endometriosis. However, the right-side dominance still cannot be explained. Further research is needed to fully understand the origin of diaphragmatic endometriosis.

60. Ultrasonographic Challenges for the Diagnosis of Adenomyosis

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Introduction: Adenomyosis was described as the presence of ectopic endometrial glandular tissue or stroma within the myometrium. The certain diagnosis of adenomyosis is made by histologic evaluation of the uterine specimen after surgery.

Material and methods: This study systematically evaluated the literature to identify the accuracy of transvaginal ultrasound with tipically imaging features, methods such as 3-dimensional and color Doppler for the preoperator diagnosis of adenomyosis.

Results: A total of 65 studies were evaluated. The overall sensitivity and specificity of transvaginal ultrasound for the diagnosis of adenomyosis regarding all combined imaging features was 83.8% and 63.9%, respectively. The sensitivity for imaging features such as heterogeneous myometrium was higher (86.0%), than globular uterus aspect (78.1%). After including the "question mark" sign in diagnosis criteria, higher sensitivity and specificity, of 92% and 88%, respectively, were recorded. For 3D ultrasound, polled sensitivity and specificity for all combined imaging characteristics was 88.9% and 56.0%, respectively. Including junctional zone evaluation the sensitivity was 86% and the specificity was 56.0% for the diagnosis. There was no improvement in accuracy in 3D ultrasound compared with 2D ultrasound. The color Doppler revealed a high sensitivity and specificity for the differences between adenomyosis and myomas (95.6% and 93.4%, respectively).

Conclusions: Even if recently, imaging with transvaginal ultrasound has been used for the preoperative diagnosis of adenomyosis there is no consensus regarding the best imaging feature or combination for the nonsurgical diagnosis of adenomyosis. Extensive studies are required for understanding the ultrasound different types of adenomyosis and their clinical impact.

Keywords: adenomyosis, ultrasound, diagnosis

61. Impact of treatment over fear of progression in endometriosis

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Background. Endometriosis is a chronic disease, with many symptoms, out of which pain being one of the most intrusive, with systemic implications and a significant psychosocial impact that may impact the quality of life and wellbeing of patients.
Women with endometriosis show significant psychosocial distress. Fear of progression is associated with great pain-related interference.

Objective. The aim of this study is to establish the connection between the fear of progression and the type of treatment in patients with endometriosis.

Material and Methods. We included in our study the patients enrolled in the database of Endoinstitute, Regina Maria. The patients were given a questionnaire, that included de Fear of progression questionnaire (FoP-Q-SF), officially translated in Romanian.

Result. The results of this study showed statistically significant differences between the types of treatment and the level of anxiety about the progression of the disease.

Conclusion. The psychological impact of the disease and treatment must be taken into consideration. Personalized counselling is important.

Keywords: Progression, endometriosis

62. NOSE technique in the surgical treatment of colorectal endometriosis.

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Introduction. Deep infiltrative endometriosis of bowel was found in 8-12% of women with endometriosis. The purpose of this study was to determine the most optimal surgical tactics and evaluate the effectiveness of the NOSE technique by classical laparoscopic access and using the DaVinci robotic unit.

Material and methods . A prospective study was conducted, including the experience of colorectal resection using the NOSE technique in 56 patients with infiltrative endometriosis of the intestine for the period from 2021 to 2023. All patients were operated on using a minimally invasive approach: in 33 cases, the treatment was performed by laparoscopic access, and in 23 cases, by robot-assisted access.
In all surgeries using the NOSE technique since 2023 (17 cases), control of bacteriological seeding is performed by sampling cultures and subsequent bacteriological examination. At the stage of isolating the pararectal cuff, (1) a control culture and (2) a culture at the final stage of the operation (after the Michelin test) were taken.

Research results. NOSE technique colorectal resection for endometriosis leads to a significant improvement in quality of life scores (from 34.1% before surgery to 81.1% in the remote postoperative period in the laparoscopic group and from 30.8% to 87.0% in the robotic group according to the BSGE pelvic pain questionnaire), there was a reduction in proctological complaints (from 30.7% before surgery to 10.3% in the remote postoperative period in the laparoscopic group and from 25.6% to 12.8% in the robotic group according to the KESS bowel evacuation disorder scoring system). The NOSE technique does not increase contamination in the area of operation.

Conclusion. Nose resection technique of colorectal endometrioid infiltrate is an effective and safe procedure. Quality of life scores were better in the robotic group in percentage terms, despite the lack of statistically significant difference between the groups.

63. Ethanol sclerotherapy for ovarian endometrioma: to whom and when?

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Ethanol sclerotherapy is effective and safe method of surgical treatment for ovarian endometrioma. Destruction with 95% ethanol solution of the capsule allows minimal impact on the ovarian reserve. However, this method should be thoroughly evaluated for the possibility to be used more frequently in practice.

Materials and methods. From the October 2021 to December 2023 84 patients aged 24 to 43 years with endometrioma were operated in the Moscow Regional Research Institute of Obstetrics and Gynecology. Group I included 48 patients - traditional laparoscopic cystectomy. Group II - ethanol sclerotherapy included 36 patients, 24 of which were performed by transvaginal access with ultrasound control, 12 - by laparoscopic access. 31 (36.9%) of patients had been previously operated because of OMA. Clinical manifestations included pelvic pain (71.7%), dysmenorrhea (73.9%), dyspareunia (32.6%), bowel symptoms (32.6%) and infertility (76.0 %). To assess the impact of operation on ovarian reserve, serum anti-Müllerian hormone (AMH) and antral follicle count was measured before surgical treatment and 3-6 months after that.

Results. Mean difference of serum AMH was -1.94 ng/ml before and after surgery in the cystectomy group. In second group it was -0.88 ng/ml. Mean difference of antral follicle count in the both ovaries were -2.4 after surgery in stripping-group and -1.7 in sclerotherapy-group. 68 out of 84 women were on anti-reccurent hormone therapy after surgery: dienogest (85.3%), combined oral contraceptives, which included dienogest (5.8%), GnRh-agonists (5.8%), Levonorgestrel IUD (3.1%). In the group I there was 2 recurrences (4.1%) of endometrioma. While in the group II with ultrasound control after 3, 6 and 12 months there were 7 relapses (19.4%). We considered that endometrioma with a diameter of more than 3 cm was a relapse.
In other cases, only the capsule of the sclerotic cyst was detected without signs of endometrioid detritus on ultrasound. Symptoms returned in 7 (14.5%) women in the stripping-group and 4 (11.1%) women in the scleroteraphy-group. No intraoperative complications were noted.

Conclusion. Preliminary results allow us to recommend the following options for the use of sclerotherapy:
1. For the endometriomas in women of reproductive age and patients planning pregnancy by ART with any level of ovarian reserve. The application of the technique is possible transvaginal with ultrasound control and laparoscopic accesses (if there is a need to check the patency of the fallopian tubes and treat combined forms of endometriosis).
2. For the recurrent, previously histologically confirmed, symptomatic endometriomas in women of reproductive age with no plans for pregnancy presently with a reduced ovarian reserve and with any level of ovarian reserve but with symptomatic endometrioma in only preserved ovary. Transvaginal access is applicable for cysts of small diameter from 2 to 6.5 cm, laparoscopic access is applicable for cysts of larger diameter from 5 to 12 cm to create conditions for the maximum contact between the capsule of OMA and the ethanol.
3. Transvaginal access is applicable for symptomatic endometriomas in the women with a big number of operations in the past.

64. Diagnostic and treatment of ileocecal endometriosis

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Introduction. Ileocecal endometriosis is often asymptomatic and is not always visualized with ultrasound and MRI. Thus thorough preoperative diagnosis of lesions in this area raise difficulties.

Materials and methods. From 2013 to 2023, 104 patients with ileocecal endometriosis were operated in the Moscow Regional Research Institute of Obstetrics and Gynecology and the Swiss University Clinic. All surgeries were performed by laparoscopic or robot-assisted laparoscopic access. 48.6% of patients had been previously operated because of various forms of endometriosis including deep infiltrative ones. Performed: appendectomy 36 (49.3 %), ileocecal resection 13 (17.8 %), resection of the cecum 10 (13.7 %), shaving of the ileum 7 (9.6 %), right hemicolectomy 6 (8.2 %), resection of the ileum 5 (6.9 %). The observation group (patients who did not have radical surgical treatment) includes 31 patients (29.8 %). Appendectomy and resection of the cecum were performed with the usage of endoscopic staplers. End-to-end anastomosis was used to carry out intestinal resection. Shaving was conducted by mandatory suturing of the wound in the transverse direction with seromuscular sutures.

Results. The most frequent localization was isolated lesions of appendix 38 cases (36.5 %), followed by ileum 25 cases (24.1 %), appendix + ileum + cecum 17 cases (16.4 %), lesions of appendix and cecum 7 cases (6.7 %), in 10 cases appendix + ileum (9.6 %) and, 2 cases of endometriosis of ileum and of the cecum (1.9 %) and 5 cases were found isolated lesions of the cecum (4.8 %).

Insights. Difficulties of diagnostic of ileocecal endometriosis: asymptomatic, not always visualized with ultrasound and MRI. It is necessary to improve ultrasound examination and MRI. Pay attention on right bowel sides during surgical treatment of endometriosis. The surgical team must have skills to perform surgeries for deep infiltrative endometriosis of various localizations

65. Tactics of pregnancy and postpartum management in patients with deep infiltrative endometriosis.

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Introduction. According to the analysis of the prevalence of endometriosis, 10% of women of reproductive age are susceptible to endometriosis.
Many studies demonstrate that surgical treatment of endometriosis not only improves fertility, but also increases the likelihood of spontaneous pregnancy by up to 53%.
The gestational process in women with DIE, especially in the 1st trimester, may be accompanied by a high frequency of the threat of spontaneous termination of pregnancy, preeclampsia, premature birth, placental abnormality, and the birth of small children by the time of gestation.

Methods. 186 patients were included in the study for the period from 2014 to 2022 - 86 patients were included in the main group who underwent endometrioid infiltrate removal by excision.
The second comparison included 35 patients with deep infiltrative endometriosis (DIE) who underwent surgery without removal of infiltrative endometriosis.
65 patients without endometriosis were included as a control group.
Patients of the first and second groups after surgical treatment were prescribed Dienogest 2 mg, aGnRH (Diferelin 3.75 mg) or contraceptive pills for 4-6 months or more.

Results. The probability of spontaneous pregnancy in patients with deep infiltrative endometriosis both after radical surgical treatment and with preservation of endometrioid infiltration was 57.6% and 45.7%, respectively, and had no statistically significant difference.
Pregnancy was most unfavorable in group II patients (against the background of non-removed endometrioid infiltrate) and was complicated by the threat of spontaneous miscarriage in the first and second trimesters (71.4% and 54.3%), preeclampsia (14.3%), the threat of premature birth (14.3%), fetoplacental insufficiency (48.6%), anemia (54.3%), intrahepatic cholestasis (17.1%). Cervix incomplete was observed 4 times more often in group I (after removal of the infiltrate).
Pregnancy in patients with DIE, regardless of the volume of surgery, was accompanied by a high frequency of surgical delivery with a large volume of blood loss.

Conclusions. It is permissible to conduct childbirth through the natural birth canal in women with colorectal anastomosis and in the presence of an endometriod infiltrate that has not been removed. The duration of breastfeeding for more than 8 months helps to reduce the recurrence of endometriosis, improve the quality of life in the postpartum period. Prolonged adjuvant hormone therapy in the postpartum period for more than one year contributes to the stable remission of endometriosis.

66. Association between deep bowel endometriosis with dyspareunia and dyschezia

Povilas Sladkevicius, Alexia Zalve Holmér, Ligita Jokubkiene

Introduction. Endometriosis presents with a multitude of symptoms, however, none of the symptoms is pathognomic. The aim of this study was to describe prevalence of dyspareunia and dyschezia in women with deep endometriosis (DE) in the bowel detected at transvaginal ultrasound examination.

Methods. Women with DE in the bowel detected at transvaginal ultrasound examination were eligible for the study. All women were systematically examined with transvaginal ultrasound by an experienced examiner at the Ultrasound Unit at the Department of Obstetrics and Gynaecology, Skane University Hospital, Malmö, Sweden using GE E8 or E10 ultrasound equipment (Milwaukee, WI, USA) with vaginal transducer of 5-9 MHz according. Before the ultrasound examination women filled in questionnaire regarding presence and intensity of dyspareunia and dyschezia using visual analogue scale.

Results. Out of 151 eligible women with bowel DE at ultrasound eight were excluded due to insufficient records. In total, 143 women were included out of which 29 had isolated bowel DIE. Other ultrasound findings included endometriomas n = 77 (53%), adenomyosis n = 47 (33%) and deep endometriosis in uterosacral ligaments n = 33 (23%). Dyspareunia was reported by 103 (72%) women and dyschezia by 102 (71%) women. The length of the bowel lesion was larger in women with dyspareunia than those

without (p=0.033). No difference has been observed in case of dyschezia. Women reported lower intensity of dyspareunia and dyschezia when they were on hormonal treatment compared to the intensity without hormonal treatment (p= 0.001).

Conclusions. Dyspareunia and dyschezia was reported by two thirds of women with DE in the bowel. Length of deep endometriosis lesion in the bowel was associated with presence of dyspareunia.

Keywords – endometriosis; bowel; ultrasonography; dyspareunia; dyschezia

67. Ultrasound findings in the pelvis of women with dyspareunia and clinically suspected endometriosis

Povilas Sladkevicius, Lindner Cecilia, Jokubkiene Ligita

Background: Despite dyspareunia being common symptom in women with endometriosis, anatomical distribution of endometriotic lesions in women with dyspareunia is unknown. The primary aim of this study was to describe the ultrasonographic findings in the pelvis of women with dyspareunia and clinically suspected endometriosis. The secondary aim was to assess the relation between the severity of dyspareunia and specific ultrasonographic and clinical features.

Methods: This was a prospective observational study of women with moderate to severe dyspareunia and suspected endometriosis who were referred for a systematic transvaginal ultrasound to confirm or exclude the endometriosis diagnosis. Intensity of dyspareunia was self-assessed by women using a visual analogue scale. Prevalence of endometriosis lesions was estimated in women with moderate and severe dyspareunia.

Results: Out of 483 women with moderate to severe dyspareunia, 138 (28.6%) had visible endometriosis, including endometriomas, adenomyosis or deep endometriosis (DE), 121 (25.0%) had other pathological findings and 224 (46.4%) had normal genitalia at ultrasound examination. In all, 65/138 (47.1%) women with endometriosis had only isolated endometriotic lesion visible on ultrasound. Adenomyosis and endometriomas were present in 53 (38.4%) and 74 (53.6%) women with dyspareunia. Deep endometriosis was present in 71/138 (51.4%) women and the prevalence of endometriosis in the bowel, uterosacral ligaments and Pouch of Douglas, the rectovaginal septum and urinary bladder was: 48 (34.8%), 47 (34.1%), 13 (9.4%) and 3 (2.2%), respectively. The severity of dyspareunia was lower in women with any findings of endometriosis compared to women with no visible endometriosis at ultrasound examination. Finally, 99.4% of all women reported at least one other endometriosis-related symptom.

Conclusion: Almost one third of women with moderate to severe dyspareunia and clinically suspected endometriosis have endometriotic lesions at ultrasound examination.

68. The mechanism of a specific downregulated lncRNA targeting miR-320 in regulating epileptogenesis in immature rat brain

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Objectives: We investigated the direct target and downstream effects of the downregulated lncRNA (GPHN) identified in epilepsy and its potential therapeutic implications.

Methods: The epilepsy model of rats was induced by lithium chloride-pilocarpine. Expression trend of GPHN in epileptic rats was measured by qPCR. In vitro hippocampal neuron epilepsy model was established using a magnesium-free culture medium. We used whole-cell patch clamp technique to assess the discharge index of neuron cells at varying concentrations of GPHN to investigate its impact on neuron cells. We examined the expression and binding relationship between some miRNAs targeting GPHN and the miRNAs to apoptosis-related protein YWHAH using chromatin isolation by RNA purification (ChIRP), qPCR, western blot and dual-luciferase reporter assay.

Results: GPHN expression gradually decreased following epilepsy onset, and eventually return to the baseline. In the epileptic cell model, GPHN can dose-dependently reduce the frequency and amplitude of action potential in neuron cells. q-PCR showed the expression of miR-320, miR-273 and miR-3593 reduced after the overexpression of GPHN. ChIRP assay showed GPHN directly targeted with miR-320. Dual-luciferase reporter assay showed miR-320 could bind with YWHAH. qPCR and western blot showed YWHAH decreased after the overexpression of miR-320. Conversely, YWHAH increased after the overexpression of GPHN.

Conclusion: We hope to provide novel insights for treating epilepsy.
Keywords: *long non-coding RNA, GPHN, miR-320, YWHAH, epilepsy,*

69. 10-year outcomes following surgical management of rectal endometriosis of ENDORE randomised trial

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Objective: To assess postoperative outcomes between conservative versus radical rectal surgery in patients with large deep endometriosis infiltrating the rectum 10 years after the surgery.

Methods: From March 2011 to August 2013, we performed a 2-arm ENDORE randomised trial, enrolling 55 patients with deep endometriosis infiltrating the rectum at CHU Rouen, France. Patients underwent either segmental resection or nodule excision by shaving or disc excision. The primary endpoint was the number of patients experiencing one of the following symptoms: constipation (1 stool/>5 consecutive days), frequent bowel movements (>= 3 stools/day), anal incontinence, bladder atony requiring self-catheterisation. Secondary endpoints were values taken from the Knowles-Eccersley-Scott-Symptom Questionnaire (KESS), the Gastrointestinal Quality of Life Index (GIQLI), the Wexner scale, the Urinary Symptom Profile (USP) and the Short Form 36 Health Survey (SF36), recurrences and pregnancy rates.

Results: Fifty-five patients were enrolled at CHU Rouen. The 10 year-rectal recurrence rates was 5.5% (in the excision vs. the segmental resection arms were respectively 7.4 % vs. 3.6%) while 51.9% vs. 53.6% of patients subjectively reported normal bowel movements (P=.99). An intention-to-treat comparison of overall KESS, GIQLI, Wexner, USP and SF36 scores did not reveal significant differences between the two arms. 37 patients attempted to conceive after surgery, 31 of whom conceived during follow up (83.8%). Pregnancy rate was 82.4% vs. 85% in the two arms (P=.99), with most natural conceptions. A 75.7% live birth rate was recorded, with up to 3 postoperative live births/patient.

Conclusion: Long term outcomes after rectal endometriosis surgery demonstrate that surgical management of rectal endometriosis is efficient in terms of functional outcomes and postoperative fertility. Conservative surgery is feasible in most of cases. No evidence was found that postoperative outcomes differed when nodule excision was compared to rectal resection for deeply invasive endometriosis involving the bowel.

Key words: Rectal endometriosis; bowel endometriosis; randomized trial.

70. A French National Research Program On Endometriosis And Infertility

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Background: Endometriosis and Infertility raise many questions in terms of pathophysiology, clinical care, well-being of patients and socio-economic impact. Addressing them requires strategic decisions, which would be mostly the responsibility of governments.

Methodology: The French Government commissioned 2 reports, "National strategy against endometriosis", and "Report on the causes of infertility", submitted in 2022. The endometriosis report recommended a 5-pronged strategy: 1) Informing; 2) Training healthcare professionals; 3) Improving disease detection: 4) Guaranteeing care; 5) Promoting research.
The Government then asked the National Institute of Health and Medical Research (Inserm) to draft a 5-year 30 M€ program aimed at boosting research on Endometriosis and Infertility.
A task force made of scientists, clinicians, and representatives of patients and industry carried out an in-depth benchmarking and consulted numerous stakeholders, resulting in the program described below.

Results: The program will consist of:
- A large project on endometriosis epidemiology in France using data from 6 national cohorts (altogether >200,000 women). Aim is to assess disease frequency as a function of endometriosis type, stage, and location. It will also help better characterize environmental and genetic risk factors, and disease heterogeneity. The comprehensive and durable database thus created will make it possible to address a wide range of research questions.
- The launch via an open call of 2 research consortia on endometriosis and infertility. They should gather clinical, basic, and human and social sciences teams. The synergy achieved should allow addressing ambitious challenges.
- Many positions for PhD students, post-docs, and chairs of excellence, open to the international community.
- An extensive scientific and training program, including international summer schools.

Conclusions: France has taken a strategic decision to stimulate research on endometriosis and infertility. The programme will offer significant opportunities for young foreign scientists at different stages of their careers to obtain positions in France.

71. Impact of the endo-app on quality of life in endometriosis: monocentric randomized controlled trial (ELEA)

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Introduction/Background: Endometriosis significantly impacts quality of life. Multimodal self-help measures are recommended, but are often difficult to access. Research on other chronic pain diseases shows that smartphone apps with multimodal measures can enhance quality of life. This study aims to investigate the Endo-App's influence on disease-related quality of life, fatigue, everyday pain-related impairments, pain-specific self-efficacy, and emotional well-being.

Methods/Methodology: This randomized, controlled, single-blind study evaluated the Endo-App's impact on quality of life and other endometriosis-associated outcomes over twelve weeks. The patients were assigned to the intervention or control group for twelve weeks. The intervention group used the Endo-App alongside standard care. The validated Endometriosis Health Profile (EHP-5) questionnaire was used as the primary endpoint. Secondary endpoints included the Fatigue Severity Scale (FSS), Pain-Self-Efficacy Questionnaire (FESS), Pain Disability Index (PDI), and Depression Anxiety Stress Scale (DASS-21).

Results: 321 women with diagnosed endometriosis were included in the study and randomized into the two study groups in a 1:1 ratio. The use of the Endo-App led to statistically highly significant improvements in the EHP-5 in the ITT (Intention-to-treat) analysis after twelve weeks compared to the control group (baseline-adjusted ANCOVA: pBL < 0.001) with a change score of -12.92 in the intervention group compared to a change score of -2.24 in the control group. This result was also clinically relevant and robust in all sensitivity analyses. All secondary endpoints of the confirmatory analysis (FSS, PDI, FESS, DASS-21) also showed statistically significant improvements through the use of the Endo-App.

Conclusions/Discussion: Overall, the results show that the quality of life as well as physical and psychological symptoms and patient autonomy of endometriosis patients can be significantly improved by the Endo-App. The app therefore represents a valuable addition to standard therapy.

Keywords: quality of life, app, multimodal self-management

72. Complementary And Alternative Medicine (Cam) Use Among Endometriosis Patients Within The Compare-Endometriosis E-Cohort

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Introduction/Background: Conventional therapeutic approaches for endometriosis can be perceived as unsatisfactory due to adverse effects or persistence of symptoms despite treatment [Jones, 2015; Seear 2009]. Consequently, some patients may turn to complementary and alternative medicine (CAM) to manage symptoms [Adamietz *et al.*, 2021; Schwartz *et al.*, 2019; Fisher *et al.*, 2016].

Methods/Methodology: In this study, we aimed to describe CAM use and assess its determinants among endometriosis patients. ComPaRe-Endometriosis is a prospective e-cohort of patients with endometriosis. We surveyed 2096 participants about their use of 18 CAMs and used logistic regression models adjusted for age, socio-economic factors, and year of diagnosis to explore the determinants of CAM use.

Results: A total of 80.7% participants had ever used CAM to manage their symptoms, among whom 74.2% consulted a CAM therapist and 63.7% tried CAMs at home. Osteopathy (61.7%), aromatherapy/phytotherapy (37.4%), yoga (36.2%), and dietary supplements (35.5%) were the most frequently reported CAM. CAM use was inversely associated with age (Ptrend=0.006) but positively associated with education (Ptrend=0.04), poor perceived financial condition (OR=2.02, 95%CI=1.30-3.12 vs. good), diagnosis of both endometriosis/adenomyosis (OR=1.40, 95%CI=1.08-1.83 vs. endometriosis alone), dysmenorrhea severity (Ptrend=0.01), diagnostic delay (Ptrend=0.006), number of health professionals consulted before diagnosis (Ptrend<0.0001), information received at diagnosis perceived as incomplete (OR=1.44, 95%CI=1.08-1.93 vs. complete), dissatisfaction with

conventional medicine (Ptrend=0.007) or gynaecologist, whether specialised in endometriosis (Ptrend=0.006) or not (Ptrend=0.004), and complications after endometriosis surgery (OR=1.48, 95%CI=1.02-2.15).

Conclusions/Discussion: Most patients used CAM in this sample. Our analysis highlighted several factors associated with CAM use, suggesting areas for improving endometriosis management by conventional medicine (diagnostic delay, medical path to diagnosis, treatment).

References:
Jones, C. E. (2015). Wandering wombs and "female troubles": The hysterical origins, symptoms, and treatments of endometriosis. Womens Stud 44(8), pp. 1083.
Seear, K. (2009). The etiquette of endometriosis: stigmatisation, menstrual concealment and the diagnostic delay. Soc Sci Med 69(8), pp. 1220.
Adamietz, A., *et al.* (2021). Complementary and alternative medicine (CAM) in women with endometriosis. Eur J Obstet Gynecol Reprod Biol 262, pp. 7.
Schwartz, A. S. K. *et al.* (2019). The use of home remedies and complementary health approaches in endometriosis. Reprod Biomed Online 38(2), pp. 260.
Fisher, C., *et al.* (2016). The use of complementary and alternative medicine by 7427 Australian women with cyclic perimenstrual pain and discomfort: a cross-sectional study. BMC Complement Altern Med 16(1), pp. 129.

73. Implementing Sustainability Measures In Endometriosis Departments

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Introduction/Background: The healthcare sector significantly contributes to climate change, accounting for 4.4% of global greenhouse gas emissions. Integrating sustainability principles into healthcare is increasingly crucial to address environmental challenges while promoting human well-being.

Methods/Methodology: We conducted a comprehensive review using search engines and databases, including PubMed and Google Scholar.

Results: This abstract presents a comprehensive approach to implementing sustainability in endometriosis departments, focusing on four key areas: Sustainable Construction and Transportation: Medical facilities substantially contribute to greenhouse gas emissions through heating, cooling, and construction. Improved spatial planning, incorporating green features like green roofs, can reduce carbon footprints. Sustainable transportation initiatives aim to reduce emissions from medical product transportation and staff commutes. Energy Transition and Climate Protection: Transitioning to renewable energy sources like wind, hydropower, and solar panels is essential for reducing greenhouse gas emissions. Sustainable Food and Agricultural Systems: A comprehensive approach considers the sustainability of the entire food supply chain, addressing resource consumption, emissions, and waste.
Pollutants-Free Environment and Waste Reduction: Healthcare facilities increasingly embrace a sustainable circular economy model, emphasizing waste reduction through five key strategies: reduction, reuse, recycling, rethinking, and research. This approach, coupled with a focus on biodegradable and reusable products and support for medical remanufacturing, is pivotal for minimizing environmental pollutants and managing hazardous healthcare waste. Furthermore, adopting digital solutions like telemedicine, paperless documentation, and reduced hospital visits contributes to reduced CO2 emissions and enhanced patient care. Embracing environmentally friendly practices, e.g., radiology and anaesthesiology, further enhances sustainability in healthcare.

Conclusions/Discussion: Implementing sustainability measures in endometriosis departments is crucial for environmental conservation and improving patient care and safety. These initiatives promote a holistic and responsible approach to healthcare, emphasizing the need to minimize the sector's environmental impact while optimizing resource utilization and patient outcomes.

Keywords: Endometriosis departments, sustainability, environmental impact

References:
Carino, S. *et al.* (2020) *Environmental Sustainability of Hospital Foodservices across the Food Supply Chain:* A Systematic Review, Journal of the Academy of Nutrition and Dietetics. Elsevier Inc. Available at: https://doi.org/10.1016/j.jand.2020.01.001.
Loh, M. *et al.* (2023) 'Ressourceneffizienz , Klimaschutz und ökologische Nachhaltigkeit im Gesundheitswesen – Eine Bestandsaufnahme ReKlimaMed Inhaltsverzeichnis', pp. 1–100. Available at:
https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/5_Publikationen/Gesundheit/Berichte/A1_ReKlimaMed_Abschlussbericht_final_barrierefrei.pdf
Medical Device Regulation (no date). Available at: https://www.medical-device-regulation.eu/download-mdr/.
Richter, H., Weixler, S. and Schuster, M. (2020) 'The carbon footprint of anaesthesia: How the choice of volatile anaesthetic affects the CO2 emissions of a department of anaesthesiology', *Anasthesiologie und Intensivmedizin*, 61(5), pp. 154–161. Available at: https://doi.org/10.19224/ai2020.154.
World Health Organization (2021) *WHO Guidance for Climate Resilient and Environmentally Sustainable Health Care Facilities*, *World Health Organisation*. Available at: https://dev.climateireland.ie/web_resource/resources
/products/sectoralAdaptationGuidelines.pdf%0Ahttps://www.who.int/publications/i/item/climate-resilient-and-environmentally-sustainable-health-care-facilities%0Ahttps://www.who.int/publications/i/item/978.

74. Mental Health In Endometriosis Patients: What Did We Learn From The Covid-19 Pandemic

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Introduction/Background: Endometriosis, a multifaceted chronic pain disorder, can affect physical and mental health. Women enduring chronic pain may be more vulnerable to mental health issues, such as depression and anxiety, especially during challenges like the COVID-19-pandemic. Resilience allows people to bounce back from adversity or stressful events. Prior studies have recognized resilience as a mediator between internal or external stressors and well-being.

Methods/Methodology: We summarize the mental health changes during the pandemic in women with endometriosis. The Brief Resilience Scale (BRS) and the Patient Health Questionnaire for Depression and Anxiety (PHQ-4) were employed to detect the prevalence of and the factors leading to self-reported depression and anxiety (considering demographic, endometriosis-specific, pandemic-related factors), as well as the level of resilience in endometriosis patients.

Results: The resilience level was significantly less than in previously published subgroups of participants with no preexisting conditions. 21.5% showed a high probability of depression, and 23.7% showed a high probability of anxiety. Current global pain-induced disability was detected as a statistically significant risk factor for both anxiety and depression, while resilience was found to be a potent protective factor for both. In contrast, low perceived social support during the COVID-19-pandemic was the most important risk factor leading to low resilience.

Conclusions/Discussion: Regular resilience and mental health assessments are recommended at diagnosis and throughout treatment to identify and support women with low resilience and at risk for mental health issues. Strengthening social networks and implementing resilience-building interventions is crucial in endometriosis patients, given their susceptibility to mental health issues. Healthcare professionals should use screening tools like the PHQ-4 to identify at-risk individuals and provide timely mental health support. Positive psychological interventions, such as resilience promotion, can mitigate mental health risks in this population.

Keywords: Endometriosis, mental health, resilience

References:

Schwab R, Stewen K, Ost L, Kottmann T, Theis S, Elger T, Schmidt MW, Anic K, Kalb SR, Brenner W, Hasenburg A. Predictors of Psychological Distress in Women with Endometriosis during the COVID-19 Pandemic. Int J Environ Res Public Health. 2022 Apr 18;19(8):4927. doi: 10.3390/ijerph19084927. PMID: 35457794; PMCID: PMC9024970.

Schwab R, Stewen K, Kottmann T, Anic K, Schmidt MW, Elger T, Theis S, Kalb SR, Brenner W, Hasenburg A. Mental Health and Social Support Are Key Predictors of Resilience in German Women with Endometriosis during the COVID-19 Pandemic. J Clin Med. 2022 Jun 26;11(13):3684. doi: 10.3390/jcm11133684. PMID: 35806968; PMCID: PMC9267240.

75. Adenomyosis as an underlying disease of uterine malignancy. A 11-year one-center analysis

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Introduction: Adenomyosis is a common gynecological condition and which is found in 10-30% cases of endometrial carcinoma and can affect its natural course.

Methods: We retrospectively analyzed 142 patients with endometrial carcinoma (119 cases with type 1 and 23 cases with type 2). For all these cases we have collected demographic, clinical, anamnestic information, histological results and follow-up data. The histological specimens of adenomyotic cases were revised and pathological features of each specimen were described.

Results: There were 32 cases of adenomyosis coexisting with ECC: 26 in type1 tumor group and 6 in type 2 that is 21.8% and 26% respectively. The groups of patients with and without adenomyosis had minimal difference in demographic and anamnestic features. Women with adenomyosis and type 1 carcinoma had higher BMI but minimal difference in background diseases. The type 2 disease had more aggressive course and more women in this group got adjuvant therapy regardless to presence of adenomyosis. No difference in depth of myometrial invasion and local or distance spreading was noted but women with type 1 and adenomyosis had significantly more early-stage disease than women without underlying adenomyosis (100% vs 81.7%). No influence of adenomyosis on recurrence rates was found.
Only **6** cases of presence of malignant cells within adenomyotic focus were found – **5** of type 1 carcinoma and 1 of type 2. In all these cases deep diffuse adenomyosis was found, but grade and stage of the tumor were different. In 4 cases the tumor was strongly positive for PAX8 and in 5 cases for ER, even in type 2 malignancy.

Conclusion: Adenomyosis is a common gynecological disease which can be a risk factor for endometrial carcinoma. However, its influence on natural course and prognosis is not so clear and the following studies should be focused on molecular mutations.

76. Profound adenomyosis and fertility outcome

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Adenomyosis is an underdiagnosed but increasingly researched condition. Most studies on adenomyosis are integrated into research on endometriosis, a condition that often coexists with adenomyosis. Adenomyosis can be a cause of infertility, and that has become a subject of interest for clinicians.

Adenomyosis is defined by the presence of endometrial tissue within the myometrium. This infiltration can be classified into two forms: diffuse and focal. One of the theories regarding the origin of this pathology is the abnormal invagination of the basal endometrial layer into the myometrium at the junctional zone and then into the depth of the uterine wall.

Adenomyosis has been shown to have a detrimental effect on the live birth rate in women undergoing IVF cycles, particularly when compared to women with endometriosis who do not have adenomyosis. It is advisable to consider screening for adenomyosis before proceeding with IVF treatment. By addressing these considerations early on and providing thorough information and support, healthcare providers can guide couples through their fertility journey and help them make decisions about their treatment options.

Numerous studies have delved into the potential influence of adenomyosis on perinatal outcomes. These studies have revealed a range of effects of adenomyosis on pregnancy outcomes, with variations noted among different patients depending on the severity and specific subtype of uterine lesions present.
In the management of patients with adenomyosis, research is still in its early stages and there is limited evidence on effectiveness. The primary concern is the patient's desire to maintain fertility, as hysterectomy is the only definitive treatment for this condition.

Current evidence supports the hypothesis that adenomyosis is linked to reduced pregnancy rates, lower chances of successful live births and higher rates of miscarriages. Both medical and surgical treatments appear to have a positive impact on fertility outcomes, resulting in improved rates of successful pregnancies and live births. It is important to recognize that pregnancy rates may be influenced by various factors and should not be the sole measure of infertility. Further research is required to definitively establish the relationship between adenomyosis and infertility and to develop standardized protocols for adenomyosis in cases where fertility is desired.

Key words: adenomyosis, infertility, prognostic

77. Pelvic Pain Caused By Endometriosis- How To Catch The Chameleon

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Introduction/Background: Pelvic pain and endometriosis are an important women's health issue. Berghmans (1) et al describes the untapped potential of physiotherapy in diagnosis and treatment of pelvic pain.
The most common symptoms associated with decreased activity and quality of life are dysmenorrhea, cyclical and acyclic lower abdominal pain, dysuria, dyschezia, and dyspareunia. Over time, nociceptive pain often changes to nociceptive pain.
The physiotherapeutic diagnosis can also use EMG and manometry in addition to vaginal and rectal palpation, but it is also important to address the affected points in the anamnesis and to include the reflexive changes in movement.

Methods/Methodology: To create an overview of positive effect of conservative interventions, a literature search was conducted via PubMed and Medline Ovid between 2018 and 2024 using the search terms: Pelvic pain, dysmenorrhea, trigger points and electrical stimulation. In addition, we have also conducted two studies on electrotherapy -Biofeedback and pelvic pain. Results: We were able to confirm various therapy options for dysmenorrhea such as yoga (2, 3), aerobics (4), heat application (5) and TENS therapy (6)with a high recommendation. This also applies to CPP, vulvodynia and dyspareunia. Various techniques are confirmed with a high level of evidence. The positive effect of targeted and controlled muscle training with the aid of EMG and manometry is undisputed (7). This positive effect is also achieved by electrical stimulation (8, 9). Very good effects in combination with training have been shown by Muallem et al (10). In the context of physiotherapy, the strengthening of the perineal muscles, TENS application and manual trigger point therapy for pain relief have been confirmed with reliable results (11).

Conclusion: Segmental stabilizing pelvic floor and trunk muscles by biofeedback training, electrotherapy and manual therapy, thus improving the Female Sexual Index and reducing pain (12) very effective in a interprofessional setting.

References:

1. Berghmans B. Physiotherapy for pelvic pain and female sexual dysfunction: an untapped resource. International urogynecology journal. 2018;29(5):631-8.
2. Kirca N, Celik AS. The effect of yoga on pain level in primary dysmenorrhea. Health Care Women Int. 2023;44(5):601-20.
3. Gunebakan O, Acar M. The effect of tele-yoga training in healthy women on menstrual symptoms, quality of life, anxiety-depression level, body awareness, and self-esteem during COVID-19 pandemic. Ir J Med Sci. 2023;192(1):467-79.
4. Dehnavi ZM, Jafarnejad F, Kamali Z. The Effect of aerobic exercise on primary dysmenorrhea: A clinical trial study. Journal of education and health promotion. 2018;7.
5. Álvarez-Salvago F, Lara-Ramos A, Cantarero-Villanueva I, Mazheika M, Mundo-López A, Galiano-Castillo N, et al. Chronic Fatigue, Physical Impairments and Quality of Life in Women with Endometriosis: A Case-Control Study. Int J Environ Res Public Health. 2020;17(10).
6. Johnson MI, Paley CA, Jones G, Mulvey MR, Wittkopf PG. Efficacy and safety of transcutaneous electrical nerve stimulation (TENS) for acute and chronic pain in adults: a systematic review and meta-analysis of 381 studies (the meta-TENS study). BMJ open. 2022;12(2):e051073.
7. Tennfjord MK, Engh ME, Bø K. An intra- and interrater reliability and agreement study of vaginal resting pressure, pelvic floor muscle strength, and muscular endurance using a manometer. Int Urogynecol J. 2017;28(10):1507-14.
8. Soeder S, Graefe F, Schwab F, Tunn R. Interprofessioneller Therapiepfad bei Beckenbodenschmerzen. Geburtshilfe und Frauenheilkunde. 2022;82(10):e164-e.
9. Terzoni S, Mora C, Cloconi C, Gaia G, Sighinolfi MC, Maruccia S, et al. Transcutaneous electrical nerve stimulation for pelvic pain: A scoping review of treatment protocols, practical indications, and caveats. Neurourol Urodyn. 2023;42(3):631-40.
10. Muallem J, Velho RV, Netzl J, Sehouli J, Mechsner S. Pelvic floor hypertension: possible factors for pelvic floor tenderness in endometriosis patients—a pilot study. Archives of Gynecology and Obstetrics. 2023:1-7.
11. Dekker L, van Reijn-Baggen DA, Han-Geurts IJM, Felt-Bersma RJF. To what extent are anorectal function tests comparable? A study comparing digital rectal examination, anal electromyography, 3-dimensional high-resolution anal manometry, and transperineal ultrasound. Int J Colorectal Dis. 2023;38(1):12.
12. Ghaderi F, Bastani P, Hajebrahimi S, Jafarabadi MA, Berghmans B. Pelvic floor rehabilitation in the treatment of women with dyspareunia: a randomized controlled clinical trial. International Urogynecology Journal. 2019;30(11):1849-55.

78. Comparison of sonographic and surgical assessment of endometrioid lesions using the Enzian classification

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Introduction: In our work, we use the ENZIAN for assessment before surgery. Our aim to compare the preoperative detection of endometriosis using transvaginal sonography (TVS) supplemented by transabdominal sonography (TAS) with surgical assessment of disease, using the Enzian classification for endometriosis.

Methods: This was a prospective diagnostic accuracy study of women undergoing radical surgery for deep endometriosis (DE) in Moscow Regional Endometriosis Center. The localization and grade of severity of the endometriotic lesions and adhesions were described according to the criteria of the Enzian classification, both at preoperative ultrasound examination and during surgery.

Results: According to Enzian, compartment C (colon) and O (ovarian lesion) showed the highest level of exact match of 93% and 99%. For compartment B (utero-sacral ligaments, parametria) and compartment A (vagina, rectovaginal space), the indicators of exact concordance were slightly lower: 87% and 91%, respectively. In the T department (tubovarial unit), the most reliable estimates were of severe adhesions (T3), with intraoperatively verified T1 and T2 lesions, the accuracy of preoperative ultrasound was lower. At the preoperative stage, all patients were routinely examined for the projection of the appendix, the dome of the cecum, and the ileum. There were several cases of missed lesions of the FI compartment, the accuracy of diagnosis of this zone was 62.5% in all cases and 78% in the presence of pronounced infiltrates requiring surgical treatment and the presence of clinical manifestations. In the diagnosis of bladder infiltrates, the sensitivity of ultrasound was 100%.

Conclusions: The Enzian classification provides a uniform classification system for describing endometriotic lesions, which can be used both at TVS/TAS and during surgical evaluation. The most difficult is the diagnosis of infiltrates of the FI department, which requires a routine inspection of this area in addition to the IDEA consensus.

79. The role of preoperative ultrasound in determining the volume excision of infiltrative endometriosis.

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Purpose of the study: To determine the most significant ultrasound characteristics of colorectal endometriosis, measured using preoperative ultrasound scanning, influencing the tactics of laparoscopic surgery.

Materials and Methods: The study included patients of the Department of Operative Gynecology of the Moscow Regional Research Institute of Obstetrics and Gynecology who underwent laparoscopic and robot-assisted surgery in the period from 2021 to 2023 due to the clinical and sonographic picture of deep infiltrative endometriosis (DIE) with previous ultrasound estimated ≤1 month prior to intervention by one doctor. Sonographic characteristics were used to determine the laparoscopic excision technique (segmental bowel resection, discoid resection, shaving) for deep infiltrative bowel endometriosis. 152 surgical interventions were performed. 102 (67.1 %) bowel resections (segmental and discoid resections), 50 (32.9 %) operations were performed by shaving. Preoperative sonographic data and surgical results were analyzed. Sonographic measurements of intestinal infiltrates and various surgical techniques were evaluated.

Results: According to preoperative sonographic measurements, the majority of infiltrates removed by segmental resection had a longitudinal dimension from 32 to 110 mm. In 7 cases, the longitudinal size of the infiltrate was ≤2.5 cm, however, discoid resection could not be performed due to the involvement of more than 40% of the semicircle of the intestinal lumen in the infiltrative process. Infiltrates excised during nodulectomy (shaving or discoid resection) had a mean longitudinal dimension of <3 cm and level of involvement less than 40% of the semicircle lumen. Lesions removed by segmental resection had a mean longitudinal dimension 6.8 mm ± 2.7 mm ($p<0.05$). In all cases segmentally resected infiltrates, all formations had a thickness of ≥ 6 mm. The maximum depth of infiltration of the muscle layer ≥9 mm was present in 26 (25,4%) cases, in 76 (74,6 %) cases the infiltration was within 6–9 mm.

Conclusion: The need for segmental resection in DIE largely depends on the degree of infiltration of the muscular layer - the appropriate thickness (layer muscularis propria) and can be accurately determined using preoperative ultrasound diagnostics.

Key words: endometriosis, diagnostics, laparoscopy.

80. Molecular Landscapes and Genetic Insights: Shaping the Future of Endometriosis Treatment

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Advances in molecular biology and genetics are crucial for unraveling the complex pathogenesis of endometriosis and advancing its treatment options.
Examination of the molecular and genetic underpinnings of endometriosis highlights the influence of genetic mutations, epigenetic modifications, and microRNA-mediated regulation on disease mechanisms including cell proliferation, adhesion, and invasion. Furthermore, the role of systemic inflammation and immune dysfunction in disease progression is elucidated.
The identification of specific biomarkers through genetic profiling can significantly enhance diagnostic accuracy and facilitate tailored therapeutic interventions. Emerging therapeutic approaches, such as targeted gene therapy and personalized medicine, promise to revolutionize treatment protocols. Focusing on these molecular and genetic advancements offers a comprehensive understanding of intervention pathways and forecasts the future landscape of managing this complex gynecological disorder, presenting new avenues for improved patient outcomes in endometriosis.

81. Deciphering the Link Between Endometriosis and Infertility: Pathophysiological Mechanisms and Therapeutic Implications

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Endometriosis is a prevalent gynecological condition with a well-established but complex association with infertility.
This abstract explores the multifactorial pathophysiological mechanisms underlying the link between endometriosis and impaired fertility. It highlights the role of anatomical distortions, altered peritoneal microenvironment, and hormonal imbalances that contribute to subfertility in affected individuals. The impact of endometriosis on oocyte quality, embryo implantation, and the endometrial receptivity is also examined. Furthermore, the potential of inflammatory mediators and oxidative stress in exacerbating fertility challenges is discussed. Therapeutic interventions, including assisted reproductive technologies (ART) and surgical and medical management strategies, are evaluated for their effectiveness in restoring fertility.
This exploration underlines the importance of a multidisciplinary approach to manage infertility in endometriosis patients, emphasizing the need for personalized treatment plans. By delineating these complex interactions, the discussion aims to shed light on innovative therapeutic strategies and improve reproductive outcomes for women suffering from endometriosis.

82. Endometriosis, A Pathway To Ovarian Cancer?

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Introduction: Despite being considered a benign disease, endometriosis and especially ovarian endometriomas have the potential to become malignant.

Methods: We conducted a retrospective study between January 2014 and December 2023 on cases with surgery for ovarian cancer in the Women's Clinical Hospital "Cuza Vodă" Iași, Romania. There were included cases diagnosed with endometrioid and clear cells ovarian cancer and other subtypes of epithelial ovarian cancer developed on endometriosis.

Aim: Our purpose was to find the correlation between endometriosis and different subtypes of ovarian cancer. We also evaluated the number of cases with malignant transformation through atypical endometriosis.

Results: The study included 42 women – 36 patients with invasive ovarian ovarian cancer, 5 cases with borderline ovarian tumours, and 1 case only with atypical endometriosis. The mean age of the patient was 48.5±5 years (limits 23-82 years) and for cases associated with endometriosis was 42.85±3.4years. The average dimension of the tumour was 12cm (limits 3.5cm-28cm) and one-third (14 cases) had the biggest dimension ≥ 20cm. Regarding the distribution of histological subtypes of epithelial ovarian cancer, this was: 78.05% (32 cases) endometrioid ovarian cancer, 9.75% (4 cases) clear cell carcinoma, 7.32% (3 cases) serous, 2.44% (1 case) endometrioid associated with serous, and 2.44% (1 case) mucinous borderline. In 23 women endometriosis was associated with ovarian cancer and only 8 of them have been reported "atypical endometriosis", which is assumed to be a precancerous lesion. Most patients were in stage I – 39 cases. Only 4 women had bilateral ovarian cancer. The tumoral grading was only G1 and G2. 7 patients had synchronous endometrial cancer.

Conclusions: Ovarian cancers developed on endometriosis appear at a younger age. They are diagnosed in the early stage. For cases with endometriosis associated with ovarian cancer, we must look for synchronous endometrial cancer.

Keywords: endometriosis, ovarian cancer, risk

References

Brilhante AV, Augusto KL, Portela MC, Sucupira LC, Oliveira LA, Pouchaim AJ, Nóbrega LR, Magalhães TF, Sobreira LR. Endometriosis and Ovarian Cancer: an Integrative Review (Endometriosis and Ovarian Cancer). Asian Pac J Cancer Prev. 2017 Jan 1;18(1):11-16. doi: 10.22034/APJCP.2017.18.1.11.
Murakami K, Kotani Y, Nakai H, Matsumura N. Endometriosis-Associated Ovarian Cancer: The Origin and Targeted Therapy. Cancers (Basel). 2020 Jun 24;12(6):1676. doi: 10.3390/cancers12061676.

83. The Impact Of Endometriosis On The Evolution Of Endometrioid Endometrial Cancer - The Assumed Risk Of A Benign Disorder

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Although endometriosis is a benign gynaecological disease, epidemiological studies, histological results, and molecular research on endometrial pathology have confirmed the link between this condition and the development of endometrial cancer. However, few data are known regarding the prognosis of patients presenting this association. Histological identification of endometriosis in patients with endometrial cancer continues to be a challenge, being an underdiagnosed condition. In this pilot study, we aimed to analyze the degree of histologically proven association between endometrial cancer and endometriosis from the perspective of the prognosis of these cases. Over 3 years, we identified 216 cases of endometrial cancer (EC), of which 187 were of the endometrioid type (86.57%). This type of EC associated with endometriosis was observed in 5 cases (2.31%). In the group of patients with endometrial cancer and endometriosis, the mean age was lower compared to those without endometriosis (53.1 vs 63.5 y/o), with an increased rate of endometrial cancer in the early stages and with low histological grade. The limitations of this study are determined by the small number of cases, which may represent an important bias. In conclusion, the presence of endometriosis in women with endometrioid endometrial cancer can be an important factor influencing the prognosis of these cases. The histological underdiagnoses of endometriosis, in reality, cannot appreciate the degree of correlation with the gynaecological oncological condition.

Keywords: endometriosis, endometrioid endometrial cancer, histology

84. Self-management strategies in endometriosis patients in german-speaking countries

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Introduction/Background: Endometriosis profoundly affects women´s lives[1-3]. Current medical treatments often fail to provide adequate pain relief and cause intolerable side effects for many[2]. Unlike in primary dysmenorrhea, where self-management is common, little information is available on how endometriosis patients self-manage their symptoms[4,5]. We aimed to determine, for the first time, prevalence of use, safety, and self-rated effectiveness of common forms of self-management in women with endometriosis in German-speaking countries.

Methods/Methodology: An online survey, conducted between August and December 2022 through endometriosis support/advocacy groups in Germany, Austria, and Switzerland, targeted participants aged ≤18, German speakers, living in the mentioned countries, and diagnosed with endometriosis. The survey assessed self-management methods, symptom improvements, medication reduction, and safety. An 11-point numerical rating scale (NRS) measured endometriosis-associated pain and self-management effectiveness, ranging from 0 ("no pain"/ "not effective at all") to 10 ("strongest pain"/ "very effective"). Pelvic pain´s impact on different aspects of life was evaluated using a 5-point scale, where 1 represents no impact at all and 5 extreme impacts.

Results: Out of 912 valid responses, 75.4% of endometriosis patients commonly employed self-management strategies. Prevalent methods included rest (91.6%), heat (91.1%), and exercises (63.3%). Cannabis, osteopathy, heat, and alcohol were highly rated for effectiveness (8.0, 7.3, 7.1, and 6.8, respectively, on the NRS) in pain reduction. Tai Chi/Qi Gong, yoga, herbal medicine, stretching, and meditation/breathing were considered less effective. Reasons for not utilizing self-management approaches included lack of information and costs.

Conclusions/Discussion: With no cure for endometriosis, self-management techniques, and lifestyle changes empower women to enhance their health alongside existing treatment plans. Notably, there is insufficient research on the effectiveness and mechanisms of certain self-management techniques, impeding insurance coverage[6]. Therefore, prioritizing studies on non-pharmacological therapies and securing financial support from health insurance companies are crucial for improving the safety and efficacy of endometriosis treatment.

References:

1. Duckelmann AM, Taube E, Abesadze E, Chiantera V, Sehouli J, Mechsner S. When and how should peritoneal endometriosis be operated on in order to improve fertility rates and symptoms? The experience and outcomes of nearly 100 cases. *Arch Gynecol Obstet* 2021; **304**(1): 143-55.
2. Mechsner S. Endometriosis, an Ongoing Pain-Step-by-Step Treatment. *J Clin Med* 2022; **11**(2).
3. Velho RV, Werner F, Mechsner S. Endo Belly: What Is It and Why Does It Happen?-A Narrative Review. *J Clin Med* 2023; **12**(22).
4. Armour M, Sinclair J, Chalmers KJ, Smith CA. Self-management strategies amongst Australian women with endometriosis: a national online survey. *BMC Complement Altern Med* 2019; **19**(1): 17.
5. Nnoaham KE, Hummelshoj L, Webster P, et al. Impact of endometriosis on quality of life and work productivity: a multicenter study across ten countries. *Fertil Steril* 2011; **96**(2): 366-73.e8.
6. Kalaitzopoulos DR, Samartzis N, Kolovos GN, et al. Treatment of endometriosis: a review with comparison of 8 guidelines. *BMC Womens Health* 2021; **21**(1): 397.

85. Will hysteroscopic postoperative estrogen therapy aggravate adenomyosis in patients concomitant intrauterine adhesions and adenomyosis?

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Introduction: Adenomyosis is relatively common in patients with intrauterine adhesions (IUAs). Following hysteroscopic-directed adhesiolysis, postoperative hormone treatment using estrogen is recommended to reduce recurrence of IUAs, meanwhile, evidence shows that supraphysiologic hormonal concentrations may aggravate adenomyosis lesions. Whether postoperative estrogen therapy in patients of IUAs with concomitant adenomyosis aggravate symptoms of adenomyosis is still unknow.

Methods: This retrospective study was conducted in a tertiary teaching hospital from January 2015 to October 2022, we included 92 women of IUAs concomitant with adenomyosis, and divided into two groups: (Group A) postoperative estrogen therapy (a daily oral dose of 2.5 mg conjugated equine estrogen for 2 or 3 cycles) following hysteroscopic surgery (53 patients); (Group B) underwent hysteroscopic surgery alone without postoperative estrogen therapy (39 patients); The degree of dysmenorrhea, menorrhagia and diameter of lesion were compared among groups at baseline and the 3-cycle follow up. Multiple logistic regression was used to compare pregnancy outcomes among the groups while adjusting for potential confounding factors.

Results: There is no significant differences with respected to the degree of dysmenorrhea, menorrhagia and diameter of lesion among two groups during the follow up. In this population, 41 patients attempted pregnancy and produced 33 pregnancies. Age (OR

0.76; 95% CI, 0.61−0.96) and severe IUAs (OR 0.13; 95% CI 0.08−0.49) were negatively associated with a live birth outcome. Postoperative estrogen therapy was not an independent predictor of pregnancy rate.

Conclusion: Hysteroscopic postoperative estrogen therapy does not seem to aggravate adenomyosis, neither add any distinct detriment to fertility among IUAs patients concomitant with adenomyosis.

86. Visceral And Subcutaneous Adipose Tissue Assessment By Magnetic Resonance Imaging In Women With Endometriosis

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Introduction: Endometriosis is associated with low body mass index (BMI). Magnetic resonance imaging (MRI) may provide more accurate and reliable adipose tissue characterization and quantification. We investigated the visceral adipose tissue (VAT), subcutaneous adipose tissue (SAT), and VAT index using MRI and their association with clinical and surgical features in women with endometriosis.

Methods: In this retrospective, single-center cohort study, eligible 172 women who were undergoing pelvic surgery from January 2004 to July 2023,diagnosed with histopathological endometriosis, and had a preoperative pelvic MRI were included. The VAT and SAT tissue volumes were measured by the axial MRI slice at the level of the umbilicus. The VAT index is calculated (VAT%=VAT/[VAT SAT] 100). Study participants were divided into two groups according to the VAT index: Group I (n=91), low visceral adiposity (VATI ≤0.265), and Group II (n=81), high visceral adiposity (VATI >0.265). The clinical and surgical features were compared among the two groups.

Results: BMI was not significantly different between the two groups (p=0.463). Multiparous women were significantly higher in Group II compared with Group I (p=0.037). On the other hand, dysmenorrhea, a history of surgical and medical treatment for endometriosis were significantly higher in Group I compared to Group II (p<0.05).There was a near statistical significance in the diagnosis of deep endometriosis among the groups (p=0.057) whereas ASRM stage, the size of ovarian endometrioma, and the presence of rectal and/or sacrouterine nodules were not significantly different between the groups (p>0.05).Logistic regression analysis revealed that there was a statistically significant positive association between preoperative C-reactive protein levels (p=0.007),neutrophil to lymphocyte radio (p=0.039) and the VAT index.

Conclusions: High visceral adiposity is associated with a higher chance of dysmenorrhea, history of surgical and medical treatment for endometriosis, independent of BMI, in women with endometriosis. The VAT index might be a useful tool to assess disease severity.

Key words: Visceral adipose tissue, MRI, endometriosis

References

Mamillapalli R, Dang T, Habata S, Gao XB, Taylor HS. Activation of Hypocretin Neurons in Endometriosis. Reprod Sci. 2022 Jan;29(1):243-249.

Backonja U, Buck Louis GM, Lauver DR. Overall Adiposity, Adipose Tissue Distribution, and Endometriosis: A Systematic Review. Nurs Res. 2016 Mar-Apr;65(2):151-66

von Krüchten R, Lorbeer R, Müller-Peltzer K, Rospleszcz S, Storz C, Askani E, Kulka C, Schuppert C, Rathmann W, Peters A, Bamberg F, Schlett CL, Mujaj B. Association between Adipose Tissue Depots and Dyslipidemia: The KORA-MRI Population-Based Study. Nutrients. 2022 Feb 14;14(4):797.

Williams BA, Mandrekar JN, Mandrekar SJ et al. Finding Optimal Cutpoints for Continuous Covariates with Binary and Time-to-Event Outcomes. Technical Report Series #79. Rochester, MN: Department of Health Sciences Research, Mayo Clinic, 2006.

87. The role of DIRAS3 in the regulation of autophagy in endometriosis

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Introduction: DIRAS3 has been reported to be involved in autophagy, a process that has been implicated in endometriosis. The aim of this study was to interrogate the mechanism by which DIRAS3 affects autophagy in endometriosis.

Methods: This study is prospective patient cohort study combined with experiments in the 12Z human endometriosis epithelial cell line model to determine the role of DIRAS3 in endometriosis. Endometrium and endometriosis lesion samples were collected from premenopausal women from 24 control and 40 endometriosis patients by laparoscopic surgery. The role of DIRAS3 in endometriosis was assessed by siRNA knockdown in 12Z cells followed by proliferation, apoptosis, invasion and autophagy assays. Autophagy

was induced by serum starvation and the levels of autophagy determined by assessing changes in the expression levels and localization of autophagy marker proteins, such as LC3.

Results: DIRAS3 mRNA showed a large increase in expression in ectopic endometriosis lesions compared with endometrium from control patients, with expression largely localized to the epithelium. DIRAS3 knockdown in 12Z endometriosis epithelial cells caused a significant reduction in the number of proliferating cells (1.6-fold, adjusted $P = 0.0007$) and increased apoptosis (AnnexinV/7AAD double-positive cells +48%, $P = 0.01$), indicating an effect on cell proliferation. Induction of autophagy by serum starvation caused significant upregulation in DIRAS3 expression after 24 h (mRNA +2.4-fold [adjusted $P = 0.017$], protein +8.1-fold (adjusted $P = 0.029$), reduced LC3I/LC3II ratio (–2.2-fold, adjusted $P = 0.044$) and an increase in the number of double positive LC3/DIRAS3 puncta (+2.3-fold, $P = 0.02$). Knockdown of DIRAS3 in serum-starved cells led to a reduction in autophagy, indicated by an overall decrease in LC3 expression and significant increase in LC3I/LC3II ratio.

Conclusion: DIRAS3 is highly upregulated in endometriosis lesions. Studies in an endometriosis epithelial cell line indicate that DIRAS3 facilitates cell survival in this context by inducing autophagy.

Key words: endometriosis, autophagy, DIRAS3

88. Detection and demonstration of ureters in endometriosis surgeries with indocyanine green using PinPoint laparoscopy

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Introduction: Laparoscopy for endometriosis is well known by its complexity in cases of deep infiltrative endometriosis (DIE). In such cases, surgeon must open the retroperitoneum to reach the endometriotic lesion/s and at the same time to watch over the ureter on the ipsilateral side. The caution from ureteral injury in much clear when the endometriotic lesion is attached to the ureter.

Methods: in this video, we present the effectiveness of the use of Indocyanine green (ICG) for ureter demonstration during laparoscopy. The beginning of surgery was by cystoscopy, visualization of the bladder walls, trigon, orifices of ureters, lesions etc. A ureter catheter then introduced through each ureter up to the pelvic kidney. The ICG powder was diluted with 10cc of pH-balanced sterile water. Amount of 1.5cc of ICG was infused into each catheter. Laparoscopy then was performed. The laparoscopic tower PinPoint® endoscopic fluorescence imaging system (4K, NOVADAC Corporation, Canada) was used for visualization.

Results: In this video, we show the time which take for the ureter green light demonstration, the clear visualization and the safety that it let the surgeon while working near the ureter pathway. We relate to the technique and to tips for a smooth and easy procedure. Audience can see the exact steps of a new tool for a better anatomic adjustment and organ carefulness.

Conclusion: Using ICG for clear ureter demonstration is fast and safe, and let the surgeon doing laparoscopic retroperitoneal surgery with much more confidence.

89. Ethanol sclerotherapy for ovarian endometrioma: to whom and when?

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Ethanol sclerotherapy is effective and safe method of surgical treatment for ovarian endometrioma. Destruction with 95% ethanol solution of the capsule allows minimal impact on the ovarian reserve. However, this method should be thoroughly evaluated for the possibility to be used more frequently in practice.

Materials and methods. From the October 2021 to December 2023 84 patients aged 24 to 43 years with endometrioma were operated in the Moscow Regional Research Institute of Obstetrics and Gynecology. Group I included 48 patients - traditional laparoscopic cystectomy. Group II - ethanol sclerotherapy included 36 patients, 24 of which were performed by transvaginal access with ultrasound control, 12 - by laparoscopic access. 31 (36.9%) of patients had been previously operated because of OMA. Clinical manifestations included pelvic pain (71.7%), dysmenorrhea (73.9%), dyspareunia (32.6%), bowel symptoms (32.6%) and infertility (76.0 %). To assess the impact of operation on ovarian reserve, serum anti-Müllerian hormone (AMH) and antral follicle count was measured before surgical treatment and 3-6 months after that.

Results. Mean difference of serum AMH was -1.94 ng/ml before and after surgery in the cystectomy group. In second group it was -0.88 ng/ml. Mean difference of antral follicle count in the both ovaries were -2.4 after surgery in stripping-group and -1.7 in sclerotherapy-group. 68 out of 84 women were on anti-reccurent hormone therapy after surgery: dienogest (85.3%), combined oral contraceptives, which included dienogest (5.8%), GnRh-agonists (5.8%), Levonorgestrel IUD (3.1%). In the group I there was 2

recurrences (4.1%) of endometrioma. While in the group II with ultrasound control after 3, 6 and 12 months there were 7 relapses (19.4%). We considered that endometrioma with a diameter of more than 3 cm was a relapse.
In other cases, only the capsule of the sclerotic cyst was detected without signs of endometrioid detritus on ultrasound. Symptoms returned in 7 (14.5%) women in the stripping-group and 4 (11.1%) women in the scleroteraphy-group. No intraoperative complications were noted.

Conclusion. Preliminary results allow us to recommend the following options for the use of sclerotherapy:
1. For the endometriomas in women of reproductive age and patients planning pregnancy by ART with any level of ovarian reserve. The application of the technique is possible transvaginal with ultrasound control and laparoscopic accesses (if there is a need to check the patency of the fallopian tubes and treat combined forms of endometriosis).
2. For the recurrent, previously histologically confirmed, symptomatic endometriomas in women of reproductive age with no plans for pregnancy presently with a reduced ovarian reserve and with any level of ovarian reserve but with symptomatic endometrioma in only preserved ovary. Transvaginal access is applicable for cysts of small diameter from 2 to 6.5 cm, laparoscopic access is applicable for cysts of larger diameter from 5 to 12 cm to create conditions for the maximum contact between the capsule of OMA and the ethanol.
3. Transvaginal access is applicable for symptomatic endometriomas in the women with a big number of operations in the past.

90. Identification And Protection Of The Pelvic Ureter In Cases Of Invasive Endometriosis: A Description Of Technique For Pre-Operative Ureteric Catheterisation Without Specialist Urological Input Or On Table Radiography

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Background: The avoidance of ureteric injury is a pre-eminent concern in cases of invasive endometriosis. Positive identification of the ureter is a reliable method of avoiding injury, however this can be a significant challenge in cases of distorted anatomy. Ureteric stenting is traditionally performed pre-operatively in cases which present an increased risk of injury or obstruction is suspected. This procedure is generally performed by urologists, involving organisation of multidisciplinary team members, radiography and additional equipment.

Methods: We present a technique of on table pre-operative retrograde ureteric catheterisation, which can be performed safely and easily by a gynaecologist applying translatable skills used in hysteroscopic/cystoscopic surgery. This allows easier identification of the pelvic ureter in cases of distorted anatomy by movement of the ureteric catheter at the urethral meatus, as well as monitor individual ureteric output and urine quality. If using camera head technology that allows it, ICG green can be placed in the ureters for additional identification.

Results: This technique does not require the attendance of a urologist or radiography in theatre and the catheters can be removed immediately post-operatively. If full thickness ureteric ligation occurs it may be more readily identified due to the presence of a ureteric catheter. The technique is not appropriate for cases where intrinsic ureteric involvement is suspected or where stents are required to remain post-operatively.

Conclusions: A familiarity with a technique to improve ureteric identification and avoidance of injury that can be performed safely, easily and efficiently by a gynaecologist alone is very useful in cases with anticipated distorted pelvic anatomy such as invasive endometriosis.

91. Assessment Of Candidate Plasma Cytokine Biomarkers And Serum Ca125 For Determining The Diagnosis And Severity Endometriosis In Symptomatic Patients

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Background: Endometriosis is a chronic, debilitating disease affecting up to 10% of women. It is characterised by symptoms of pain and subfertility, which can be non-specific and there is currently and 8 year delay in diagnosis. Those with the most severe disease must be triaged to tertiary centers for multidisciplinary management. Many candidate biomarkers have been assessed with varying success. CA125 is amongst the best performing and has been shown to provide good specificity but not sensitivity for disease. Immune changes lie at the heart of endometriosis pathogenesis and peripheral blood cytokines represent potential biomarkers.

Methods: We evaluated 9 candidate plasma cytokines and serum CA125 in a cohort of 40 prospectively recruited hormone naïve reproductive age women attending for laparoscopic surgery to investigate symptoms suspicious for endometriosis. The cohort included 10 negative controls, 16 with minimal/mild (ASRM I/II) and 14 with moderate/severe (ASRM III/IV) disease. Plasma cytokines were assessed by immune multiplex and ELISA.

Results: Univariate analysis found CCL5(RANTES) was significantly decreased in cases compared with controls (p=0.02). IL-17a and GM-CSF were similarly reduced in cases, although significance was marginal after correction (p=0.07 and p=0.06 respectively). CA125 correlated very strongly with endometriosis stage (p=0.0002). IL-8 and IL-17a were significantly higher in those with stage III/IV endometriosis compared to stage I/II (p=0.04 and p=0.02 respectively). A logistic regression model containing CCL5, IL-17a and CA125 gave the best overall performance for a diagnosis of endometriosis with an AUC of 0.797.

Conclusions: The majority of assessed cytokines were not able to differentiate between cases and controls. Serum CA125, which is readily available in primary care, was able to identify those with more severe disease and could be assessed to aid detection of those with severe endometriosis for referral to a tertiary endometriosis centre.

92. FEMaLe: Preliminary Self-reported Data Analysis for Early Diagnosis of Endometriosis Using the Lucy Mobile Health Application

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Introduction: Endometriosis is underrecognized, underprioritized, and underfunded, contributing to diagnostic delays of 4 to 11 years. Mobile healthcare tools could facilitate disease management, symptom assessment, and the prediction of endometriosis, offering clinical benefits and cost reduction. Despite this potential, their use in endometriosis symptom tracking remains limited, and research is scarce. This study addresses this gap by creating a large prospective database using the Lucy mobile health app and analyzing patient profiles to understand endometriosis better.

Methods: The questionnaire and user records in the Lucy app collect real-world, self-reported information on symptoms of endometriosis. 5,000 women with confirmed endometriosis and 5,000 women without endometriosis will be enrolled and followed up for one year. Preliminary analyses involved various correlation techniques and visual representations, including heat maps contrasting endometriosis against symptoms. Machine learning algorithms were deployed to uncover hidden relationships or patterns.

Results: First, we focused on assessing and filtering data quality due to inevitable inaccuracies in real-world data. The algorithm was completed, integrating data from two primary sources: the Lucy app diary and the monthly questionnaires to create a comprehensive user profile. Preliminary data analysis was performed on 600,000 user records. Using time series analysis, it was possible to implement Long short-term memory methods for risk prediction. Records from patients diagnosed with endometriosis but not yet received treatment correlated with known endometriosis-associated symptoms, such as pelvic pain, pelvic cramps, lower back pain, and dysmenorrhea.

Conclusions: Our preliminary big data analysis showed that real-world, self-reported data are consistent with known endometriosis-associated symptoms, suggesting that using mobile apps for endometriosis monitoring is a promising strategy. By linking the collected information with registry-based information on diagnoses of endometriosis, we may create a phenotype description of women with endometriosis. These findings may pave the way to revolutionizing disease management and early detection of endometriosis.

Funding: Horizon 2020-101017562

93. Advantages Of Robotic-Assisted Surgery In Diaphragmatic Endometriosis: A Comprehensive Case Report

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Introduction: Diaphragmatic endometriosis is a rare manifestation of endometriosis where endometrial-like tissue grows on the diaphragm. Robotic-assisted surgery has revolutionized the approach to complex gynecological pathologies, including diaphragmatic endometriosis.

Methods: This case report discusses the management of a patient with diaphragmatic endometriosis using a robotic surgical approach. The procedure is detailed in a stepwise fashion, including patient positioning, port placement, and the specific techniques employed for excision of the diaphragmatic lesions. The surgical management is based on a standardized procedure that ensures complete removal of the diaphragmatic lesions. This method involves initial inspection and mobilization, sectioning of adhesions, lesion excision, and repair of the diaphragm with a focus on minimizing postoperative adhesions and avoiding complications such as pleurisy.

Results: The robotic-assisted laparoscopic excision of deep endometriosis involving the diaphragm allows for complete removal of diaphragmatic lesions with good clinical outcomes. The benefits of using a robotic system include improved dexterity, precision, and visualization, which are crucial in the delicate and complex anatomy of the diaphragm. These advantages potentially improve surgical outcomes and patient recovery. The 23 years old patient underwent the excision of deep endometriosis lesions, right ovarian biopsy and partial resection of right hemidiaphragm with restoration of continuity through robotic surgery. In the presented case, the patient had no complications or recurrence of endometriosis 10 months postoperatively, indicating a successful intervention.

Conclusion: Robotic surgery for diaphragmatic endometriosis offers significant advantages, including enhanced surgical precision, reduced postoperative pain, and quicker recovery times. This case report highlights the effectiveness of a robotic approach in managing diaphragmatic endometriosis, suggesting it as a valuable option for patients with this condition.

94. Changes in hospital consumption of opioid and non-opioid analgesics after colorectal endometriosis surgery

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Ethical approval statement: Institutional review board approval was obtained and all patients gave their written informed consent to participate in the study (CEROG 2012-GYN-10-03).

Introduction: Surgery for deep endometriosis with colorectal involvement is an option after medical treatment failure. Laparoscopy is nowadays considered the gold standard for surgical treatment, but over the past decade, robotic laparoscopy has emerged as an alternative to conventional laparoscopy. However, reports comparing robotic to conventional laparoscopy are scarce and mainly based on small populations, especially for discoid excision and segmental resection. The objective of this study was to evaluate surgical outcomes of robotic versus conventional laparoscopy for discoid excision and segmental resection.

Methods: From 2019 to 2023, we conducted a retrospective cohort study of 152 patients with colorectal endometriosis who underwent robotic or conventional laparoscopy for discoid excision and colorectal resection. The decision to perform robotic or conventional laparoscopy was not based on preoperative characteristics.

Results: Ninety of the patients 152 underwent robotic surgery and 62 conventional laparoscopy. The mean total surgical room occupancy and operating times were longer in the robotic group: 270±81 min vs 240±79 min, p=0.010, and 216±78 min vs 190±76, p=0.027, respectively. The mean intraoperative blood loss, and the incidence of intra- and postoperative complications (according to Clavien-Dindo classification) were similar in the two groups. The mean hospital stay was greater after conventional laparoscopy (8±5 vs 7±4 days; p=0.03), and the rate of persistent voiding dysfunction was higher in the conventional group (9/11, 25% versus 2/11, 5%; p=0.01). A higher incidence of persistent voiding dysfunction was also observed after segmental resection by conventional laparoscopy (25% vs 4.8%, p=0.01) while no difference was observed for discoid excision according to the route. The free histologic margin rate was higher after robotic surgery 92% vs 83% (p=0.02).

Conclusion: Our results support the use of robotic surgery as an alternative to conventional laparoscopy for discoid excision and segmental resection for colorectal endometriosis.

95. Pain therapy for chronic pelvic pain and dyspareunia in endometriosis with nerve and muscle stimulation | device and biofeedback function

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Introduction/Background: Beyond the cyclical pain commonly associated with endometriosis, the primary symptoms include acyclic chronic pelvic pain (CPP) and dyspareunia[1]. Notably, individuals experiencing severe CPP often exhibit secondary pelvic floor changes. In particular, hypertonic pelvic muscles and an associated imbalance of the pelvic floor muscles seem to play a role in this pain genesis[2]. Unfortunately, the current treatment options (hormones and/or surgery) are often inadequate to treat CPP[1,2]. This study aims to reduce pain (CPP) and improve quality of life by using a combined electromyography (EMG) biofeedback and EMG-triggered stimulation (ETS) device.

Methods/Methodology: In this prospective observational study, 60 women with diagnosed endometriosis and a hypertonic pelvic floor were given an intravaginal ETS device to be used at home for three months. Standardized questionnaires, including the Central Sensitization Inventory and a pain questionnaire capturing typical endometriosis-associated pain (CPP, pelvic floor pain, dyschezia, dysuria, and dyspareunia) using numerical rating scales, among others, were used. Pain scores were compared before and after the ETS device application. In addition to the descriptive statistics, Wilcoxian scale was used for the pre-post comparisons, and Wilcoxon signed-rank test for paired samples was used.

Results: Among the 60 patients initially enrolled, 43 have completed the study, while 17 have withdrawn. Patients' ages range from 21 to 46 years. The data analysis showed that the use of ETS devices in endometriosis patients leads to a significant reduction in pelvic floor pain (n=21; p=0.008) and pain during sexual intercourse (n=23; p<0.001). Data collection will continue until February 2024.

Conclusions/Discussion: The initial evaluation suggests that ETS devices used in endometriosis patients can be a promising addition to conventional therapy. The significant reduction in pelvic floor pain and dyspareunia means a significant improvement in myofascial functionality and may be associated with a reduced need for pain medication.

References:

1.Mechsner S. Endometriosis, an Ongoing Pain-Step-by-Step Treatment. *J Clin Med* 2022; **11**(2).

2.Muallem J, Velho RV, Netzl J, Sehouli J, Mechsner S. Pelvic floor hypertension: possible factors for pelvic floor tenderness in endometriosis patients—a pilot study. *Archives of Gynecology and Obstetrics* 2023: 1-7.

96. Unusual Localisation Of An Atypical Polypoid Adenomyoma

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Introduction/Background: Atypical polypoid adenomyoma (APA) is a rare disease <500 cases reported in the literature. Atypical polypoid adenomyoma/atypical polypoid adenomyofibroma of the uterus (APA). It is uncommon uterine lesion, first described by Mazur in 1981. This condition is most frequently observed in fertile nulliparous women. Conservative management is often chosen to preserve fertility. There is a substantial risk of persistence/recurrence of this condition of 59% after a 10-year follow-up period. Endometrial carcinoma coexists with APAM in 8.8% of cases. APA has an appearance similar to endometrial carcinoma, adenosarcoma and carcinosarcoma.

Methods/Methodology: A 21-year-old patient, a virgin without a significant medical history, was addressed to our hospital for abundant vaginal bleeding. An MRI was performed that described a solid expansive formation, well delimited, with an inhomogeneous structure, with small cystic areas and an intense contrast socket.

Results: The histopathological exam revealed the tissue fragments to be sufficiently delimited by a thin layer of the endometrium composed of a biphasic stromal and glandular proliferation and represented by cellular stroma with edematous areas with thin blood vessels interspersed with thick bundles of smooth muscular fibers that included irregularly contoured secretory endometrial glands, organized in hyperplastic lobular areas, and lined by the simple and pseudostratified epithelium with hyperchromatic nuclei, eosinophilic metaplasia, and a tendency for squamous differentiation.

Discussion: At present, the gold standard for the diagnosis of uterine adenomyoma is histopathological exam – limitations due to complicated operation, long detection time, and invasiveness - not suitable for early diagnosis. Color Doppler ultrasound

demonstrates abundant blood flow within the tumor, but peripheral blood supply may be insufficient. Compared to those with uterine fibroids, patients with uterine adenomyoma tend to exhibit: higher Resistance Index (RI), Systolic Velocity (Vs), Pulsatility Index (PI) values. This difference may be attributed to the ectopic hyperplasia and rich blood supply of endometrial tissues within the lesions. Polypoid adenomyomas, when examined grossly on MRI, do not exhibit any noticeable differences from ordinary endometrial polyps. Conservative treatment (operative hysteroscopy) is often the best choice for managing atypical polypoid adenomyoma (APA). Cases treated with operative hysteroscopy had a lower prevalence of relapse compared to cases treated with blind curettage and polypectomy. The use of a levonorgestrel intrauterine device (IUD) has been suggested as maintenance therapy for young women who wish to preserve their fertility. Medroxyprogesterone acetate (MPA) treatment for atypical polypoid adenomyoma (APA) can be a reasonable option.

Conclusions: Since most APA patients are premenopausal and desire fertility preservation, a fertility-sparing treatment is essential. Hysteroscopic transcervical resection (TCR) may be considered the first-line fertility-sparing. Despite the advantages of TCR, it's important to acknowledge that there is still a risk of recurrence (29.8%) and progression (10.8%) even after this procedure. Atypical polypoid adenomyoma (APA) may be managed through hysterectomy for patients who do not wish to preserve their fertility.

References: 1.Grindstaff S, Banet N. - Atypical polypoid adenomyoma 2 - *Int J Gynecol Cancer* 2021;31:639–640
2 Biasioli et al. - Atypical polypoid adenomyoma follow-up and management - Systematic review of case reports and series and meta-analysis - Medicine (2020) 99:26
3 Qi H, Zhou C, Huang Z, Yang N, Wu Q - Value of Transabdominal Combined Transvaginal Color Doppler Ultrasonography in the Distinguish between Uterine Adenomyoma and Uterine Fibroids - Hindawi BioMed Research International Volume 2022, Article ID 9599571
4 Fukami T et al - Positron emission tomography findings in atypical polypoid adenomyoma - Rare Tumors 2016; 8:6129

97. Paracrine Communication From Omental Adipose Tissue May Promote Endometriotic Lesion Metabolism

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Introduction/Background: Paracrine mechanisms relating to endometriosis are poorly understood. Tissues surrounding endometriotic lesions may significantly alter disease progression. Furthermore, endometriosis commonly penetrates the peritoneal layer in deep infiltrating disease, but rarely spreads throughout the omental adipose tissue. Additionally, the inverse correlation between endometriosis occurrence and BMI has not been mechanistically investigated, despite the role of adipose tissue as an endocrine organ. This work aimed to determine whether omental adipose tissue influences the development of endometriosis.

Methods/Methodology: Human tissues and biological fluids were kindly donated by consenting women, admitted to Royal Oldham Hospital and Rochdale Infirmary. Samples have been utilized in many experiments, including qPCR for determination of cytokine expression in omental adipose tissue and histological staining of eutopic and ectopic endometrium. Primary cells have been cultured from ectopic endometrial tissue for use in MTT and scratch assays, after stimulation with omental adipose conditioned media. Finally, lipidomic analysis has been performed on peritoneal fluid/washes and will be pursued in adipose and endometrial tissue.

Results: Omental adipose conditioned media from women with endometriosis increased metabolism of ectopic endometrial cells, compared to conditioned media from women without this disease. However, omental adipose conditioned media from both endometriosis and control groups significantly inhibited migration and proliferation of endometriotic cells in scratch assays. Lipidomic analysis of peritoneal fluid and peritoneal washes has highlighted significant alterations in levels of cyclooxygenase and lipoxygenase metabolites of endometriosis sufferers compared to control patients.

Conclusions/Discussion: Omental adipose secretes factors that influence metabolism, proliferation and migration of endometriotic cells. Currently, this work suggests that omental adipose may promote metabolism of ectopic endometrial cells and this could be related to alterations in the lipid environment. Further experiments are underway to determine the importance of these results in endometriosis pathophysiology.

98. Circulating Serum Micro-Rna As Non-Invasive Diagnostic Biomarkers Of Endometriosis

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Background: At present only laparoscopy, confirmed by histological evaluation, can provide a final diagnosis of endometriosis, often achieved after a significant delay**.** The discovery of non-invasive biomarkers is warranted to anticipate the diagnosis, avoiding the risk of postoperative complications**.** The purpose of this study was to investigate a serum microRNAs (miRNAs) profile in a cohort of patients with and without endometriosis to identify a set of miRNAs with diagnostic potential.

Methods: This study was performed on 67 endometriosis and 60 healthy controls. Total RNA was extracted from 400 ul of serum and miRNA expression profiling was performed via TaqMan OpenArray technology, which allows the detection of 754 miRNAs. RefFinder algorithm and the Two-One-Sided Test (TOST) were used for identification of optimal reference miRNAs. MiRNA expression was determined using the $2^{-\Delta\Delta Ct}$ relative quantification method. Censored Regression Model was used for miRNA differential expression analysis.

Results: One hundred and thirty miRNAs were detected in at least 75% of samples belonging to endometriosis or control groups and were considered for subsequent analyses. Data were normalized using the arithmetic mean of the three best reference miRNAs. Sixteen, 18, 15 and 10 miRNAs resulted significantly differentially expressed in the comparisons between all endometriosis versus controls, deep infiltrating endometriosis (DIE) versus controls, endometriomas versus controls, and DIE versus endometriomas, respectively. To explore the discrimination ability between all endometriosis and controls, a Random Forest algorithm based on 18 miRNAs was built. The diagnostic performance of this signature was characterized by AUC=0.863, FPR=0.227, and FNR=0.196.

Conclusions: Our study indicates that, although the heterogeneity of disease and the different phenotypes, differentially expressed miRNAs between endometriosis groups and controls can be identified. These results support a potential involvement of serum miRNAs in the pathophysiology of endometriosis and their possible introduction as informative non-invasive biomarkers during the diagnostic process.

Keywords: endometriosis, diagnosis, microRNA

99. Bone Density Measurements In Women With Endometriosis – Influence Of Age, Bmi And Amh

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Introduction: Endometriosis has been reported to decrease ovarian oocyte reserve as estimated by anti-Müllerian hormone (AMH) measurements. Perimenopause – a phase of declining bone density despite high estradiol levels, in which 25% of women show increased bone loss at the lumbar spine – has been linked with increased endometriotic activity (Matalliotakis et al., 2019). The role of early perimenopause, which may increase both endometriosis activity and bone changes has not been studied. We studied bone density measurements and AMH- levels in endometriosis patients.

Methods: Medical records of patients with suspected or histopathologically proven endometriosis were extracted. Age, body mass index (BMI), bone mineral density measured by dual x-ray absorptiometry (DXA), AMH levels, and hormonal treatments were analysed. T-scores of women ≤ 30 years of age were compared with T-scores of women > 30 yrs. and changes over time compared.

Results: Out of 480 patients with at least a clinical suspicion of endometriosis, women > 30 yrs. (n=60; average age 43,2 [31;83]) had lumbar spinal T-scores averaging -0,9 [-4,1;2,9]; and femoral neck -1,1 [-2,8;2,7]. By comparison, women ≤ 30 yrs. (n=21; average age 25,6 [15;30]) had lower T-scores at the spine (-1,8 [-3,7;0,7]) but higher T-scores at the femoral neck (-0,6 [-3,1;1,7]).

BMD was influenced by body weight: BMI < 20 (T-score spine -1,5 [-3,2;1,1]; femoral neck -1,3 [-3,1;0,6]). We further analysed T-scores for different cut-offs of AMH, and the dynamics of T-Scores over time in repeat DXA-measurements.

Conclusions: In this retrospective analysis of clinical data, endometriosis patients at the age of their peak bone mass (25 -30 years) had osteopenic BMD values. Early perimenopause might increase later fracture risk in women with endometriosis. Weight and BMI influenced bone health, particularly under 30 yrs. Premature ovarian aging may affect both the course of endometriosis and the bone health of endometriosis patients.

References: Matalliotakis, I., Arici, A., & Goulielmos, G. N. (2019). Keeping an Eye on Perimenopausal and Postmenopausal Endometriosis. Diseases, 7(1). https://doi.org/10.3390/diseases7010029

100. Outcomes of discoid excision and segmental resection for colorectal endometriosis: robotic versus conventional laparoscopy

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Introduction: Surgery for deep endometriosis with colorectal involvement is an option after medical treatment failure. Laparoscopy is nowadays considered the gold standard for surgical treatment, but over the past decade, robotic laparoscopy has emerged as an alternative to conventional laparoscopy.
However, reports comparing robotic to conventional laparoscopy are scarce and mainly based on small populations, especially for discoid excision and segmental resection. The objective of this study was to evaluate surgical outcomes of robotic versus conventional laparoscopy for discoid excision and segmental resection.

Methods: From 2019 to 2023, we conducted a retrospective cohort study of 152 patients with colorectal endometriosis who underwent robotic or conventional laparoscopy for discoid excision and colorectal resection. The decision to perform robotic or conventional laparoscopy was not based on preoperative characteristics.

Results: Ninety of the patients 152 underwent robotic surgery and 62 conventional laparoscopy. The mean total surgical room occupancy and operating times were longer in the robotic group: 270±81 min vs 240±79 min, p=0.010, and 216±78 min vs 190±76, p=0.027, respectively.
The mean intraoperative blood loss, and the incidence of intra- and postoperative complications (according to Clavien-Dindo classification) were similar in the two groups. The mean hospital stay was greater after conventional laparoscopy (8±5 vs 7±4 days; p=0.03), and the rate of persistent voiding dysfunction was higher in the conventional group (9/11, 25% versus 2/11, 5%; p=0.01). A higher incidence of persistent voiding dysfunction was also observed after segmental resection by conventional laparoscopy (25% vs 4.8%, p=0.01) while no difference was observed for discoid excision according to the route. The free histologic margin rate was higher after robotic surgery 92% vs 83% (p=0.02).

Conclusion: Our results support the use of robotic surgery as an alternative to conventional laparoscopy for discoid excision and segmental resection for colorectal endometriosis.

101. Detection of Adenomyosis on MRI scans using Artificial intelligence

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Introduction/Background: Adenomyosis is a gynaecological condition that poses significant diagnostic challenges due to its subtle and variable manifestations on magnetic resonance imaging (MRI) scans. Adenomyosis diagnosis is especially challenging because a confirmatory diagnosis is only possible on removal of the uterus. There is no consensus on adenomyosis diagnostic criteria on MRI, although the high resolution and tissue differentiation provided by MRI would help to distinguish the various subtypes and signs of the disease (Celli et al. 2022, Rees et al. 2021). The reliance on the subjective interpretation of radiologists thus underscores the need for more objective and consistent diagnostic tools. In this preliminary study, we explore the use of artificial intelligence (AI) algorithms for adenomyosis detection on MRI scans, aiming to provide a more objective and reliable diagnostic tool.

Methods/Methodology: A deep learning model utilizing convolutional neural networks (CNNs) were developed to analyze MRI scans for presence and location of the uterus and adenomyosis. The dataset comprised 480 anonymized pelvic MRI scans, annotated by an expert radiologist as the ground truth. The model underwent training, validation, and testing phases, incorporating image pre-

processing techniques to enhance data quality. Iterative optimization of the model focused on adjusting its architecture, including variations in layer configurations, activation functions, and regularization techniques to mitigate overfitting. The model's performance was evaluated against expert annotations for both classification (presence/absence) and segmentation tasks (bounding box for adenomyoma).

Results: When compared to expert annotations, the model demonstrated an ability to consistently identify both focal and diffuse features of adenomyosis, reducing the likelihood of human error and variability in diagnosis. The algorithm had sensitivity of 81.5%, accuracy of 89% and positive predictive value of 71% for detection of adenomyosis. The algorithm has the potential to reduce the diagnostic processing time, presenting a significant improvement over traditional methods in terms of efficiency.

Conclusions/Discussion: The integration of AI algorithms in the detection of adenomyosis on MRI scans represents a significant advancement in the field of radiology and gynaecology. By aligning closely with expert annotations while providing faster and potentially more consistent results, this technology promises to revolutionize the diagnostic approach for adenomyosis. Future efforts will focus on enhancing the algorithms' accuracy through expanded training datasets and cross-validation with a broader range of expert annotations, aiming to solidify AI/ML as a reliable tool in the clinical diagnostic process for adenomyosis and other complex gynaecological conditions.

References:

Celli V, Dolciami M, Ninkova R, Ercolani G, Rizzo S, Porpora MG, Catalano C, Manganaro L. MRI and Adenomyosis: What Can Radiologists Evaluate? *International Journal of Environmental Research and Public Health*. 2022; 19(10):5840. https://doi.org/10.3390/ijerph19105840 Rees CO, Nederend J, Mischi M, van Vliet HAAM, Schoot BC. Objective measures of adenomyosis on MRI and their diagnostic accuracy-a systematic review & meta-analysis. Acta Obstet Gynecol Scand. 2021 Aug;100(8):1377-1391. doi: 10.1111/aogs.14139. Epub 2021 Apr 4. PMID: 33682087.

102. Surgical treatment of Caesarean-section scar endometriosis (CSSE)

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Introduction. Abdominal wall endometriosis is one of the extragenital location diseases occurring in surgical scar. It is caused by the implantation of endometrial cells during the surgery. Clinical symptoms usually include the presence of palpable painful mass in area of scar or above that increase before menses. Ultrasound, magnetic resonance imaging and computed tomography helps to exclude other diagnosis (hernias, lipomas, abscesses, haematomas, desmoid tumours, metastasis, keloid scars, suture granulomas, etc).

Methods. From January 2019 through December 2023 twelve patients with CSSE underwent surgical excision lesions and reconstruction of abdominal wall. All patients started the gonadotropin-releasing hormone (GnRH) analogues therapy before surgery.

Results. 2 patients had cutaneous and subcutaneous endometriosis. They underwent simple excisions of the mass. 9 patients had lesions (3-6 cm) that involved rectus abdominis muscle fascia and rectus muscle. Reconstruction of abdominal wall by non-absorbable polypropylene mesh was used to close the defect fascia to 8 patients, only one of this 9 patients was possible simple suturing damaged fascia. One patient had big endometriotic nodule (8 cm) that involved subcutaneus fat, fascia, rectus abdominis muscles and peritoneum. To correct the defects plication rectus of muscles was performed and implantation polypropylene mesh 10 x 12 cm was done. Subcutaneous suction drainage was used to minimize the risk of haematoma. All of the patients were discharged the next day and continued taking GnRH-analogues for course of 6 months. Histopathological examination confirmed scar endometriosis. Follow-up 1-4 years shown absence recurrence or hernia formation.

Conclusion. Combination of medical therapy with radical surgical excision is a safe and effective treatment of CSSE.
Keywords. Caesarean-section scar endometriosis, abdominal wall endometriosis, scar endometriosis

103. Robotic surgery v conventional laparoscopy in the management of colorectal surgery for endometriosis

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Introduction: Surgical management of deep endometriosis with colorectal involvement is the option after failure of medical treatments. Conventional laparoscopy is the standard approach for surgical treatment. Recently, assisted-robotic laparoscopy emerged as an alternative to conventional laparoscopy but with low evidence.

Methods: We conducted a prospective cohort study on 65 patients undergoing a surgical treatment for colorectal endometriosis (rectal shaving, discoid excision or segmental resection) in Spedali Civili di Brescia from February 2018 to September 2024.

Surgeries were performed either by robotic or conventional laparoscopy. Patients' characteristics, operative and post-operative data were compared between the robotic and the conventional laparoscopic group.

Results: 65 patients were included, 20 in the conventional laparoscopy group and 45 in the robotic one. Patients' characteristics at baseline and operative findings were similar between the two groups, but there was a higher incidence of digestive procedures in the robotic group ($p = 0.12$). The mean total surgical room occupancy time and operating time were longer in the in the robotic group (246 ± 84 min vs 167 ± 73 min; $p = 0.007$) and (200 ± 85 min vs 152 ± 54 min ($p = 0.06$), respectively. The mean intra operative blood loss, the incidence of intra operative, post-operative complication (according to Clavien-Dindo classification) rates were similar in the two groups. The rate of grade III complication was higher in the robotic group (13 % vs 0%) without reaching a significance. The mean hospital stay was $9 \pm 6,7$ days in the robotic group and $5,5 \pm 2,8$ days in the conventional laparoscopy group ($p = 0.18$).

Conclusion: Our results support that robotic surgery is and adequate alternative to conventional laparoscopy for endometriosis colorectal resection.

104. Increasing Diversity In Endometriosis Genetic Research

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Introduction: Clinical and scientific knowledge of endometriosis is predominantly based on studies involving participants from high-income countries. This is reflected in genetic research: published endometriosis genome-wide association studies (GWAS) focus almost exclusively on European-ancestry populations, with no African-ancestry representation. Studies with increased genetic diversity will likely produce novel findings and improve global applicability of known associations.

Methods: Data from International Endometriosis Genomics Consortium partners was explored. PubMed, Google Scholar, and Google were also searched to identify global biobanks and datasets containing African-ancestry genotyped endometriosis cases. In addition, we initiated an Africa-based endometriosis study with the vision to generate genotype data. Public and private healthcare facilities in South Africa were contacted to develop a collaborative endometriosis research network. Available and generated datasets will undergo quality control, imputation to TOPMeD, and GWAS utilising REGENIE and the admixture-aware tool Tractor.

Results: Thirty datasets containing genotyped endometriosis cases were identified. Of those with information available, published, or who responded to requests, six (20.0%) had self-reported Black participants, but only one (All of Us; 3.3%) was both directly accessible for analysis and large enough for GWAS. All of Us contains 9 989 genotyped cases; 902 (9.0%) self-report as Black. A GWAS of endometriosis is underway. Four academic hospitals and six private facilities in South Africa agreed to conduct genotyping as part of an endometriosis research network. Work is ongoing to recruit additional partners and secure funding for genotyping.

Conclusions: There is a clear need for more research involving diverse populations, and for more accessible data with which to do endometriosis research. There is a strong interest from African scientists and clinicians to be involved in and drive this research. The GWAS underway (results will be presented) will be an important step towards increasing the diversity of endometriosis studies for global benefit.

105. Embryonic morphokinetic types in patients with endometriosis

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Introduction: Endometriosis is a frequent chronic gynecological disease with a major negative impact on fertility. In vitro fertilization (IVF) studies support the fact that women with endometriosis have poorer embryo quality and implantation rate. The continuous monitoring of embryos during cultivation, known as time-lapse microscopy, has become very popular in the last few years.

Material and methods: For this retrospective study we analyzed 10 fertilized and cultured with endometriosis and 10 fertilized and cultured as controlled and no endometriosis. Patients were stimulated using the GnRH antagonist protocol. After fertilization, a time-lapse incubation system was used for continuous observation. The embryos were ranked based on morfokinetic parameters, namely the optimal scoring was A/B and less one with C/D. For the correlation of microkinetic variables with embryo implantation potential, the KIDScore of day 5 (D5) data algorithm was used.

Results: The comparative analysis showed a median KIDScore in D5 of 5.69 for the patient with endometriosis reported to the control group where the median KidScore in D5 was 6.48. For both the KidScore scale used was 1 to 9.9. The median score for the

patient with endometriosis was lower compared with the patient without endometriosis. The trend of morfokinetic parameters was the same for both groups, with a score of A/B.

Conclusion: This study was able to demonstrate that although the presence of endometriosis for the patient undergoing IVF or ICSI highlights normal morphogenetic aspects, a D5 KIDScore quantifies lower values compared to patients without endometriosis.

Keywords: Endometriosis; Time-lapse technology, Embryo development

106. GnRH Agonists in Uterine Fibroids: Personalized Applications and Hormonal Balance Strategies

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Objective: This review aims to explore the personalized application of Gonadotropin-Releasing Hormone (GnRH) agonists in the treatment of uterine fibroids and its impact on hormone balance.

Methods: A retrospective cohort study was conducted using health insurance data from Pubmed from 2010 to 2023. Data from 17,207 patients undergoing GnRH agonist treatment for uterine fibroids were collected. The study compared the incidence rates of severe liver disease, mild liver disease, and liver transplantation between patients treated with GnRH agonists and Ulipristal Acetate (UPA). In-depth analysis was performed on matched data of 11,445 patients in each group after 1:1 propensity score matching.

Results: The study found no cases of liver transplantation in either the UPA or GnRH agonist groups. In the GnRH agonist group, there were 90 cases of chronic hepatitis, while the UPA group had 377 cases. The overall incidence rate of liver disease (RR 1.111; 95% CI: 1.015-1.216) and mild liver disease (RR 1.094; 95% CI: 1-1.196) during treatment was higher in the UPA group compared to the GnRH agonist group. There were no significant differences in the incidence rates of severe liver disease (RR 0.07; 95% CI: 0.001-4.412) and toxic liver disease (RR 1.256; 95% CI: 0.845-1.867) between the two groups.

Conclusion: There was no significant difference in the incidence rates of severe liver disease and toxic liver disease between UPA treatment group and GnRH agonist treatment group. This suggests that GnRH agonists are a safe choice for personalized treatment of uterine fibroids compared to UPA. However, considering UPA's ability to rapidly alleviate symptoms of uterine fibroids related to severe bleeding without suppressing estrogen levels, clinicians should comprehensively assess individual patient conditions and liver function when selecting a treatment regimen.

Key words: Gonadotropin-Releasing Hormone agonists, Ulipristal Acetate, Uterine Fibroid

107. Laparoscopic Management of a 20-centimeter Endometrioma in an Infertile Patient

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Introduction: Ovarian Endometrioma (OMA) is one of the three phenotypes of endometriosis and is commonly associated with infertility and diminished ovarian reserve. OMA may, or may not, be associated with pelvic pain. Surgical management of OMA includes excisional and non-excisional methods. We, hereby, present the case of a 40 year-old patient with infertility and severe pressure symptoms due to a 20-centimeter left OMA that was managed successfully by laparoscopic OMA cystectomy.

Results: Due to severe pressure symptoms, an informed decision was made to proceed with laparoscopic cystectomy, following an MRI abdomen/ pelvis. Of note, the patient had 2 previous open surgeries for right OMA cystectomy via Pfannenstiel incision, where extensive adhesions had been noted. Due to the cyst size, the Lee-Huang point (mid-way between umbilicus and xiphoid) was picked for Veress needle insertion, after a nasogastric tube was used to empty the stomach. 4-port laparoscopy was performed. Extensive bowel and omental adhesions were noted and these were taken down, before the cyst was intentionally ruptured and its content evacuated. Laparoscopic inspection of the cyst content revealed no suspicion of malignancy.
Laparoscopic cystectomy was performed with appropriate haemostasis. A small defect in the mesosigmoid was noted that required no additional intervention. The cyst wall was removed through a laparoscopic bag, via the left-sided 10-millimetre trocar and the

fascia closed with absorbable sutures. Blood loss was 30 millilitres and the patient was discharged home on post-operative day 2. Histology confirmed benign OMA.

Conclusion: OMA cystectomy may be favoured in certain cases of patients with fertility wishes (such as those with severe symptoms) over non-excisional methods. Minimal-access approach is feasible and safe, even in very large OMAs and patients with history of open surgeries, by surgeons with appropriate experience and provided certain technical rules are followed. Pre-operative imaging should aim at excluding malignancy and identifying co-existent deep endometriosis lesions.

Keywords: Endometrioma, Laparoscopy, Infertility.

108. Large Haemoperitoneum Caused by a Ruptured Endometrioma: A Case Report

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Introduction: Endometriosis affects 2-10% of women of reproductive age and symptoms vary greatly. Hemoperitoneum caused by endometriosis is a rare complication, but it can be associated with important morbidity (hypovolaemia, hospital admission for blood transfusion and possible surgical intervention, hypovolaemic shock). The current case report aims to bring this severe, albeit rare, complication of endometriosis to the attention of clinicians.

Results: The case reported regards a 25 year old virgo patient with a history of chronic dysmenorrhea and polymenorrhea who presented with anemia, free abdominal fluid on imaging and, eventually, signs of hypovolemia. An exploratory laparoscopy revealed the existence of a large haemoperitoneum consisting of fresh and clotted blood, as well as free "chocolate" fluid, caused by a ruptured endometrioma. Endometrioma cystectomy led to arrest of bleeding and the patient had an uneventful recovery.

Conclusion: Hemoperitoneum caused by ruptured endometrioma is a rare entity. The diagnosis should be given consideration when a patient with known or suspected endometriosis presents with signs of intra-abdominal haemorrhage.

Keywords: hemoperitoneum, endometrioma, laparoscopy

109. Transvaginal Ultrasound in the Diagnosis and Assessment of Endometriosis

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Introduction: Although endometriosis is a common gynaecological disorder, affecting up to 10% of women of reproductive age, timely diagnosis and accurate assessment are often challenging. Transvaginal ultrasonography (TVS) and magnetic resonance imaging (MRI) are the most common imaging modalities. This review aims to assess the role of TVS in the diagnosis and assessment of endometriosis.

Methods: A narrative review of all relevant literature was conducted.

Results: Three distinct forms of endometriosis are recognised. Ovarian endometriomas (OMAs) can adequately be assessed by transvaginal ultrasound. Superficial peritoneal endometriosis remains challenging in its diagnosis by either imaging modality. When it comes to deep infiltrating endometriosis (DIE), transvaginal ultrasound in the hands of an appropriately trained clinician, appears to be non-inferior to MRI regarding both diagnosis and assessment. The IDEA group consensus provided a structured approach for the sonographic evaluation of DIE as well as standardized terminology. TVS can be used in the non-invasive staging of endometriosis using the available classification systems (rASRM, #ENZIAN).

Conclusions: Given its satisfactory overall diagnostic accuracy, wide availability, and low cost, TVS should be considered as the first-line imaging modality in the diagnosis and assessment of endometriosis. Modifications to the original ultrasound technique can

be employed on a case-by-case basis. Improved training and future advances in ultrasound technology are likely to further increase its diagnostic performance.

Keywords: Endometriosis, ultrasound, diagnosis

110. Diagnosis of Endometriosis by Transvaginal Ultrasound: An Online Survey of Gynecologists Practising in Greece

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Introduction: To check the views of Greek gynecologists, members of the Hellenic Society of Gynecological Endoscopy (HSGE), on the role of transvaginal ultrasound (TVS) in the diagnosis and assessment of endometrioma and Deep Endometriosis (DE). Participants were also asked about their own clinical experience using TVS for the same purpose, as well as their views on the need for specialized TVS training for diagnosing endometriosis.

Methods: Anonymous, online questionnaire, distributed to all HSGE members via electronic invitations by email.

Results: We collected 64 responses. 61 participants (95.31%) answered that they can confidently diagnose endometrioma by TVS "always" or "most of the time". With the exception of DE of the recto-vaginal septum/posterior vaginal vault, for all other DE locations, more than 50% of participants felt that they can "rarely" or "never" diagnose it by TVS in their own clinical practice. 42 participants (65.6%) stated that additional, specialized training is required for the diagnosis of endometrioma. When asked about a diagnosis of DE, 58 participants (90.6%) felt that the same is required. The only statistically significant association was between the number of TVSs performed per year and the clinician's ability to diagnose bowel DE in their practice. The answers to all other questions did not differ significantly based on professional status, years of experience post-residency, or number of TVSs per year.

Conclusions: Despite the emerging view that TVS plays a key role in the diagnosis and assessment of endometriosis, our participants still had low expectations from TVS. This was even more pronounced when asked about their own clinical practice. Our results demonstrate an overall delayed adoption of TVS in the diagnosis of endometriosis and confirm the need for relevant, specialised ultrasound training.

Keywords: Diagnosis, ultrasound, endometriosis

111. Management Of Bowel Deep Infiltrating Endometriosis: Laparoscopic Multiple Intestinal Resections

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Introduction: Endometriosis is the most common cause for chronic pelvic pain in women of reproductive age, affecting 15% of them. One third of women diagnosed with infertility have endometriosis. The bowel is affected in 3-37% of cases, 90% of which involve the rectosigmoid colon [1]. The small bowel is implicated in 2-16% of the cases, the appendix in 3-18% and the caecum in 2-5% [2]. There is no high-precision imaging test available for ileal endometriosis, usually being an incidental finding during surgery for other endometriosis sites, presenting as nodules with intramural and endophytic growth, commonly located on the ileocecal junction.

Materials and methods: We submit a retrospective study conducted between January 2022 and January 2023 in which we analyze the surgical approach and case management methodology of 214 patients who underwent laparoscopic bowel resection for multiple intestinal deep infiltrating endometriosis, located both in the small intestine and in the rectosigmoid.

Results: In addition to the rectal endometriosis nodules, during thorough laparoscopic examination of the small intestine we identified distal ileal and/or ileocecal junction nodules in 10.74% of the cases and appendiceal endometriosis in 5.14% instances.

All patients underwent laparoscopic rectosigmoid resection with end-to-end anastomosis. Appendicectomy or small bowel resections were required in 12.55% of the cases (27 patients). Rectal endometriosis nodules classified as C2 and C3 were seen in 55% of the patients. The complication rate was null as no laparotomy conversions and no protective stomas were required. Anastomotic leakage did not occur, showcasing a high safety profile of the chosen surgical approach.

Conclusions: There is still an ongoing debate regarding the optimal treatment course for deep infiltrating endometriosis affecting the gastrointestinal system. Laparoscopic multiple intestinal resections proved to be the best approach when performed in a centre highly specialised in the management of endometriosis, having a shorter recovery period, while showing an improved fertility prognosis with no additional complications than laparoscopic simple intestinal resections.

References:
1. Wolthuis AM, Meuleman C, Tomassetti C, D'Hooghe T, de Buck van Overstraeten A, D'Hoore A. Bowel endometriosis: colorectal surgeon's perspective in a multidisciplinary surgical team. *World J Gastroenterol*. 2014;20(42):15616-15623. doi:10.3748/wjg.v20.i42.15616
2. Kobayashi K, Yamadera M, Takeo H, Murayama M. Small bowel obstruction caused by appendiceal and ileal endometriosis: a case report. *J Surg case reports*. 2022;2022(6):rjac282. doi:10.1093/jscr/rjac282

112. Exosomal and membrane bound hsp70 as a novel potential biomarker for endometriosis

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Introduction/Background: Apart from the "retrograde menstruation theory", immunological and endocrine factors are presumed to play a role in endometriosis (1), but the exact pathomechanisms are still not clarified. Presently an involvement of stem cells is discussed (2-5). Therefore, we conducted a pilot study to investigate whether exosomal and membrane bound heat shock protein 70 (Hsp70) could serve as potential biomarkers for endometriosis.

Methods/Methodology: In a pilot study we collected EDTA blood from 12 therapy naive patients in the age range 18-50 years (with thereafter histologically confirmed endometriosis) prior to their surgery to determine circulating exosomal and free Hsp70 levels using the compHsp70 ELISA (6) and to isolate circulating tumor cells (CTCs) with a cmHsp70.1 and EpCAM antibody-based isolation technique (7,8). The CTCs were further characterized by immunohistochemistry using the classical CTC marker cytokeratin, the leukocyte marker CD45 and the mesenchymal/stemness markers CD105 and CD44 (9-11).

Results: Free and exosomal Hsp70 levels were found to be elevated in patients with histological proven endometriosis (mean:263 ng/ml, n=12) compared to a historical cohort of healthy controls (mean:35ng/ml, n=108). CTCs could be isolated in the blood of all patients with both antibody-based approaches (cmHsp70.1: 34- 346,896 CTCs, EpCAM: 30-1845 CTCs). The isolated cells were found to be cytokeratin-positive, CD45-neagtive and expressed the mesenchymal/stemness markers CD105 and CD44.
Conclusions/Discussion: Elevated levels of free and exosomal Hsp70 in the plasma and circulating cells with molecular characteristics of CTCs were found in the blood of all patients with endometriosis and therefore could serve as potential "liquid biopsy" markers for endometriosis. The presence of mesenchymal and stemness markers on CTCs are a hint for the mesenchymal origin of these cells and may support the relevance of stem cells in the pathomechanism of endometriotic lesions.

Keywords: endometriotic lesions, stemness, epithelial-mesenchymal transition

References:
1. Sampson, J. A. (1927). Metastatic or Embolic Endometriosis, due to the Menstrual Dissemination of Endometrial Tissue into the Venous Circulation. The American journal of pathology, 3(2), 93-110.43.
2. Mehedintu et al. (2014). Endometriosis still a challenge. Journal of medicine and life, 7(3), 349–357.
3. Liu, Y. et al. (2020). The role of endometrial stem cells in the pathogenesis of endometriosis and their application to its early diagnosis†. Biology of reproduction, 102(6), 1153–1159.
4. Chan, R. W. S. et al. (2004). Clonogenicity of human endometrial epithelial and stromal cells. Biology of reproduction, 70(6), 1738–1750.
5. Kim, W.-T., & Ryu, C. J. (2017). Cancer stem cell surface markers on normal stem cells. BMB reports, 50(6), 285–298.
6. Werner, C., et al. (2021). Hsp70 in liquid biopsies – a tumor-specific biomarker for detection and response monitoring in cancer. Cancers 13(15), 3706.
7. Breuninger, S., et al. (2018). Membrane Hsp70 a novel target for the isolation of circulating tumor cells after EMZ. Front Oncol. 8, 497.
8. Xanthoupulos, A., et al. (2023) Hsp70 a universal biomarker for predicting therapeutic failure in female cancer and a target for CTC isolation in advanced cancer. Biomedicines 11(8), 2276.
9. Barak, V. et al. (2004). Clinical utility of cytokeratins as tumor markers. Clinical biochemistry, 37(7), 529–540.
10. Lane, E. B., & Alexander, C. M. (1990). Use of keratin antibodies in tumor diagnosis. Seminars in cancer biology, 1(3), 165–179.

11. Yu, M. et al. (2011). Circulating tumor cells: approaches to isolation and characterization. The Journal of cell biology, 192(3), 373–382

113. The Need For Endometriosis Nursing Advice

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Introduction/Background: Due to the occurrence of numerous specific and nonspecific manifestations, the path to a conclusive diagnosis of endometriosis spans from six to ten years[1]. The persistent inflammatory processes, scar tissue formation, and adhesions may lead to infertility[2], pain, reduced quality of life, and psychological distress, among other issues[3]. Within the framework of extended clinical care, structured nursing guidance plays a central role in fostering patient self-care capabilities and contributing to evidence-based enhancements in healthcare quality[4]. In Switzerland, integrating the endometriosis nurse into extended clinical care has proven efficacious.

Methods/Methodology: Implementing the Endometriosis Nurse role at Charité – Universitätsmedizin Berlin aims to ensure personalized, patient-centered nursing care for individuals with endometriosis throughout the entire outpatient and inpatient care process and beyond the discharge process. A key component entails the provision of supplementary and evidence-based, structured nursing-led counseling services, closely coordinated with medical care. Implementation strategies informed by implementation research principles are employed in establishing the endometriosis counseling service. Endometriosis nurses at Charité Universitätsmedizin Berlin have already provided 67 nursing counseling in the period from August 2023 to January 2024. The evaluation focuses on scrutinizing the assessment tools utilized and measuring outcomes of recommended interventions through structured interviews.

Results: Engagement with specialized endometriosis nurses offers affected individuals not only empathetic support but also targeted assistance. The patient-centered approach of complementary nursing counseling emphasizes enhancing and sustaining the quality of life for affected individuals, bolstering self-management competencies, and averting complications. The nursing counselling already showed that the focus was primarily on adequate pain education, the identification of complementary treatment options, guidance, and coaching in implementing the multimodal concept.

Conclusions/Discussion: Regular integration of nursing consultations by endometriosis nurses as an interface within care practices holds promise for enhancing patient outcomes. Furthermore, this framework presents an additional avenue in patient-centered endometriosis care.

References:

[1] Nezhat, C.; Vang, N.; Tanaka, P.P.; Nezhat, C. (2019): Optimal Management of Endometriosis and Pain. In: *Obstetrics and gynecology* 134 (4), S. 834–839. DOI: 10.1097/AOG.0000000000003461

[2] Hudelist, G.; Tammaa, A.; Aas-Eng, M. K.; Kirchner, L.; Fritzer, N.; Nemeth, Z.; Lamche, M. (2018): Outcome of sonography-based minimally invasive surgery for deep infiltrating endometriosis of the ureter and urinary bladder - a retrospective cohort study. In: *Acta obstetricia et gynecologica Scandinavica* 97 (3), S. 277–284. DOI: 10.1111/aogs.13279

[3] Mechsner, S. (2015): Endometriose: Pathogenese, Symptome und Diagnostik. In: Martin Sillem, Friederike Siedentopf und Sylvia Mechsner (Hg.): Leitsymptom chronischer Unterbauchschmerz der Frau. Interdisziplinär klinisch Praxisorientiert. Berlin, Heidelberg: Springer (Springer eBook Collection), S. 35–54.

[4] Hamric, A. B.; Hanson, C. M.; Tracy, M. F.; O'Grady, E. T. (2014): Advanced Practice Nursing. An integrative Approach. 6. Aufl. Missouri: Elsevier

114. Comparative Study Of The Spectrum And Intensity Of Pain Syndrome In Deep Endometriosis.

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Introduction/Background: Deep Endometriosis (DE) is considered the most painful form of endometriosis (E) [1]. The #Enzian classification is convenient for E staging. Our aim was comparation of pain syndrome in forms of E [2].

Methods/Methodology: A cohort study included 190 patients: the main group - 85 women with DE, the control group - 105 woman with other forms of E. The #Enzian was used for the staging, VAS, B&B scores - for pain assessment.

Results: The VAS pain level in DE vs other forms was: chronic pelvic pain (CPP) 7.9±0.2 (95%CI; 7.4–8.3) vs 2.4±0.4 (95%CI; 1.4–3.3), dysmenorrhea (Dm) 9.0±0.2 vs 5.3±0.5, dyspareunia (Dp) 7.8±0.3 vs 2.1±0.4, dysuria (Du) 1.4±0.4 vs 0, dyschezia (Dh) 3.8±0.5 (95%CI; 2.7–4.9) vs 0 points. A statistically difference was observed for CPP, Dm, Dp ($U=706$, $p<0.01$), Du and Dh proved to be pathognomonic symptoms for DE.

The B&B pain level in DE vs other forms: total score 11.3±0.3 (95%CI; 10.6–12.1) vs 4.9±0.5 (95%CI; 3.7– 6.0), total pelvic pain score 7.6±0.2 vs 2.9±0.3, total physical sign score 3.7±0.2 vs 1.9±0.2 points, what demonstrate a significant difference (U=735, $p<0.01$).
Pain evaluation in DE according to VAS > 7 points for #Enzian compartment A was: CPP – 85.1±3.4%, Dm – 97.8±1.2%, Dp – 93.6±2.1%, Dh – 53.1±7.6%; for B: CPP, Dm, Dp – 100%, Dh – 42.8%; for C: CPP, Dm, Dp – 100%; for FA: CPP, Dm – 100%, Dp – 86.6±5.6%%, Dh – 46.6%; for FB: CPP, Du – 86.6±5.6%, Dm – 93.3±3.8%; for FI: CPP, Dh – 87.5±7.5%, Dm – 100%, Dp – 75.0%; for FO: CPP, Dm – 90.9±5.3%, Dp – 45.4%.

Conclusions/Discussion: DE is the most painful form of E. It differs from other forms by more pronounced pain (VAS ≥ 7.18, B&B ≥ 10.65, $p<0.01$), by diversity of pain spectrum (Dp, Dh - pathognomonic symptoms), by dependence of the type of pain on the location according to #Enzian.

References:
1. Keckstein, J. et al. Recommendations for the surgical treatment of endometriosis. Part 2: Deep endometriosis. Human Reproduction Open 2020, (2020). 2. Vermeulen, N. et al. Endometriosis classification, staging and reporting systems: A review on the road to a universally accepted endometriosis classification. Human Reproduction Open 2021, (2021).

115. Cannabis use in endometriosis: the patients have their say – an online survey for german-speaking countries

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Introduction: Recent studies have shown that the endocannabinoid system is involved in the pathophysiology of endometriosis[1,2], and using Cannabis may be a potential therapeutic option for treating this disease[3]. Thus, our goal was to determine the prevalence of Cannabis use, self-rated effectiveness, and the possible reduction in medication.
Methods: A cross-sectional online survey was conducted and distributed through social media groups. Women were eligible to answer the survey if they were 18 – 55, lived in Germany, Austria, and Switzerland, speak German, and had a confirmed diagnosis of endometriosis. Survey questions covered the types of self-management methods used, improvements in symptoms, reduction in medication, adverse effects, and associated costs.
Results: Out of 912 participants, 114 used cannabis as a means of self-management. Cannabis was rated as the most effective self-management strategy to reduce symptom intensity, with a rating of 7.6 out of 10. The greatest improvement was observed in sleep (91%), menstrual pain (90%), and non-cyclic pain (80%). Almost 90% reduced their pain medication intake with Cannabis. Apart from increased fatigue (17%), side effects were infrequent, with a rate of ≤5%.
Conclusions/Discussion: Cannabis consumption remains illegal in Germany, Austria, and Switzerland, with limited medical prescriptions due to complex requirements. This study reveals, for the first time, the prevalence of cannabis use among endometriosis patients in German-speaking countries. Surprisingly, our study found a high usage rate comparable to studies in Australia, New Zealand, and Canada[4-6]. This suggests that cannabis is a popular self-management method for treating endometriosis-related symptoms internationally. Further studies are needed to investigate the best methods of administration, dosage, THC/CBD ratio, potential side effects, and long-term effects to provide official recommendations to patients and healthcare providers.

References
1. Bilgic E, Guzel E, Kose S, Aydin MC, Karaismailoglu E, et al. (2017). Endocannabinoids modulate apoptosis in endometriosis and adenomyosis. Acta Histochem 119:523-32
2. Sanchez AM, Quattrone F, Pannese M, Ulisse A, Candiani M, et al. (2017). The cannabinoid receptor CB1 contributes to the development of ectopic lesions in a mouse model of endometriosis. Hum Reprod 32:175-84
3. Bouaziz J, Bar On A, Seidman DS, Soriano D. (2017). The Clinical Significance of Endocannabinoids in Endometriosis Pain Management. Cannabis Cannabinoid Res 2:72-80
4. Sinclair J, Smith CA, Abbott J, Chalmers KJ, Pate DW, Armour M. (2020). Cannabis Use, a Self-Management Strategy Among Australian Women With Endometriosis: Results From a National Online Survey. J Obstet Gynaecol Can 42:256-61
5. Gholiof M, Adamson-De Luca E, Foster WG, Leyland NA, Bridge-Cook P, et al. (2023). Prevalence of Use and Perceived Effectiveness of Medical, Surgical, and Alternative Therapies for Endometriosis Pain in Canadians. J Obstet Gynaecol Can 45:11-20
6. Armour M, Sinclair J, Chalmers KJ, Smith CA. (2019). Self-management strategies amongst Australian women with endometriosis: a national online survey. BMC Complement Altern Med 19:17

116. Immunohistochemical detection of the TRP channels (TRPC-6 and TRPC-3) in endometriosis lesions

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Introduction: Endometriosis is a common gynecological disease that is characterized by the presence of endometrial-like cells outside the endometrium. Although the pathogenesis of endometriosis remains largely unexplained, it is known that the processes of migration, proliferation and revascularization play an important role. These processes share a common element, which is the second messenger, calcium. Members of the superfamily of transient receptor potential (TRP) ion channels, which are calcium-permeable, have been identified as important regulators. This study aims to examine the protein expression profile of the TRPC3 and TRPC6 in different endometriosis tissues.

Methods: This study included laparoscopically harvested and histomorphologically verified endometriosis tissues from various locations including the pelvic wall, abdominal wall, bladder roof, Douglas space, vagina, rectovaginal septum, ureter, and myometrium (adenomyosis uteri) (n=18). Physiologic endometrium tissues served as a comparison cohort (n=5). Inclusion criteria were informed consent, no history of endometriosis, no previous hormonal or surgical treatment, no hormonal contraceptives, BMI < 26, non-smoker status and no alcohol abuse. Immunohistochemical staining was conducted according to a specific protocol designed for this project using anti-TRPC3 and anti-TRPC6 antibodies (Alomone Labs, Jerusalem) at a dilution of 1:1500. Protein expression levels were assessed using the Remmele and Stegner scoring system.

Results: Positive protein expression of TRPC3 and TRPC6 was observed in all tested tissue samples. TRPC6 was moderately expressed in endometriosis tissues and physiologic endometrium tissues [Mean (Range): 8 (4-12) vs 6 (4-6) respectively]. On the other hand, TRPC3 was found to be moderately expressed in endometriosis tissues and strongly expressed in physiologic endometrium tissues [Mean (Range): 6 (3-12) vs 9 (3-12) respectively].

Conclusion: Our findings showed a slight differencies in TRPC3 and TRPC6 protein levels in endometriosis tissues compared with physiologic endometrium tissues. Additional research with a substantial number of cases is necessary to verify the clinical relevance of TRPC3 and TRPC6 in endometriosis.

Keywords: Endometriosis, TRPC6, Immunohistochemistry

117. Multiplex-staining of histological endometriosis sections for artificial intelligence-based image analysis

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Introduction/Background: Endometriosis is characterized by the complex interplay of various cell types and exhibits great variation between patients and its subtypes. In cancer research, multiplex immunochemistry and artificial intelligence-based image analysis advance our understanding of cellular interactions. Both types of anomalous tissue proliferation resemble each other in ectopic lesion growth, immune response induction, and high cell density. We introduce an endometriosis-specific multiplex panel, perform tissue segmentation, and cell-identification using the cancer-specific ImmuNet algorithm.

Methods/Methodology: A 6-plex immunofluorescence panel in combination with a nuclear stain was established. Nine endometriosis samples were stained, and regions of interest were manually pre-selected from whole-slide images. The widely used inForm Tissue Analysis Software was used to segment epithelial, stromal, and fibrotic tissue compartments. We employed our in-house developed cancer-specific ImmuNet algorithm (1) to identify immune-cells and their proliferative status in relation to the specific tissue structures.

Results: An endometriosis-specific multiplex panel comprising of PanCK, CD10, α-SMA, calretinin, CD45, Ki67 and DAPI enabled the distinction of tissue structures in endometriosis. Whereas inForm enabled a reliable segmentation of tissue substructures, for cell identification, the segmentation-free ImmuNet algorithm was superior. This combined approach allowed us to compare the proportions of the tissue compartments between lesions, as well as their respective abundances of proliferating immune cells.

Conclusions/Discussion: We demonstrate the great potential of combining multiplex staining and cell phenotyping for endometriosis research. Our multiplex panel visualises endometriosis lesion architecture and immune cell distribution. With the employment of ImmuNet we show that it is capable of performing cell phenotyping on tissue types that were not part of the training set, underlining the potential of the method for heterogenous endometriosis samples.

References: 1. Sultan, S., Gorris, M. A. J., Woude, L. L. v. d., Buytenhuijs, F., Martynova, E., Wilpe, S. v., Verrijp, K., Figdor, C. G., Vries, I. J. M. d., & Textor, J. (2021). A Segmentation-Free Machine Learning Architecture for Immune Land-scape Phenotyping in Solid Tumors by Multichannel Imaging. bioRxiv, 2021.2010.2022.464548. https://doi.org/10.1101/2021.10.22.464548

118. Resection of deep endometriosis as a risk factor for uterine rupture – case report

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Introduction: Uterine rupture is a rare and dangerous obstetrics complication. One percent of uterine ruptures occur in patient with previously scarred uteri, but it has been noted in women without history of scarring at a rate 0.6 per 10000 deliveries (1-2). One of the main risk factor is adenomyosis and operation for adenomysis. There are several cases of uterine rupture of posterior wall after resection of deep endometriosis in posterior compartment at the level of isthmus uteri.

Methods: case report

Materials: A 27- year- old nullipara presented with chronic pelvic pain, severe dysmenorrhea and dyschesia. An ultrasound finding showed 4cm rectovaginal nodule in posterior compartment. In March 2021, the patient underwent a laparoscopic excision of the rectovaginal nodule with anterior resection of the rectum, adhesiolysis and shaving of the posterior uterine wall with resection of the posterior vaginal wall performed by monopolar coagulation. The deep endometriosis nodule was located on the posterior wall of the uteri in the place of future rupture. Due to adenomyosis she underwent 3 months GnRH analog therapy. She conceived after first ovarian stimulation and KET. Her prenatal course was uneventful. At 36 weeks of gestation, she came to our facility with Braxton Hicks contractions and suspicious CTG. After a spontaneous rupture of membrane during latent phase of labor the pregnancy was terminated by emergency caesarian section indicated for severe bradycardia. She gave birth to a female infant weighing 2300g, with Apgar scores of 7, 8, and 10. A posterior isthmic transverse uterine rupture from one uterine margin to another and vaginal transversal rupture was noted and repaired using double layer suture for the uterus and one layer suture for the vagina. A total blood loss was estimated at 1000ml. The patient recovered uneventfully.

Conclusion: In recent years it has been recorded an increasing number of cases of uterine rupture after excision of the rectovaginal septum. Our case confirms what previous case reports already described, that resection/shaving of DE from posterior part of the isthmus uteri is a potential risk factor for specific severe and potentially life-threatening complications, uterine compartment especially. All known cases occurred in third trimester. In our case it occurred in latent phase of labor and it was combined with rupture of previously resected posterior vaginal wall. The patient got pregnant 12 months after surgery. We conclude that shaving of posterior part of isthmus uteri should be performed with special care to the thickness of the wall, the pregnancy may be consider with at least 6 months delay after surgery. All the patients after this surgery should be informed about the clinical signs of the uterine rupture. Follow up and delivery should be done in a facility with high skilled surgeon in case of complication.

119. Registration of endometriosis cases in Aragon, a region of Spain: a goal or a utopia?

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Introduction: In 2017, women affected by endometriosis in Spain collected 200,000 signatures in the Congress of Deputies demanding a registry of endometriosis cases. A year later, the Government of Aragon was urged to create a registry of patients affected by endometriosis, which will contain data collected related to incidence, admissions, number of surgeries, diagnostic delay, complications of surgeries, percentages of sterile women and needs for in vitro fertilization as well as delays in access to said services.

Methods: A electronic form was created to fill out in gynecology consultations throughout the region with the aim of collecting cases of endometriosis. The form collects data on family history, symptoms, comorbidity, fertility history, medical treatments and surgeries.

Results: Generalized participation by gynecologists in the region has not been achieved. Completing records requires the voluntariness and motivation of gynecologists since it requires effort and time in the consultation.

Conclusions: Medical data records are not an effective tool to know the prevalence of diseases, since they depend on the participation of many people. We may have to resort to methods that include artificial intelligence to achieve massive data analysis to better know the prevalence of endometriosis.

120. The Formidable yet Unresolved Interplay between Endometriosis and Obesity

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Introduction: Obesity and endometriosis are two very common entities, yet there is uncertainty on their exact relationship.

Methods: This is a narrative review that entailed online search of the English literature in Pubmed, Embase, and Web of Science until December 2023. Search terms included ("obesity" OR "obese" OR "body mass index" OR "BMI" or "adiposity" OR "body size" OR "bariatric surgery" OR "metabolic surgery" OR "adiponectin" OR "chemerin" OR "ghrelin" OR "leptin") AND ("endometriosis"). In addition to the primary research, key references of the included studies were also investigated.

Results: Sixty-two full manuscripts were obtained, including clinical and experimental research papers, systemic reviews and meta-analyses, narrative reviews, editorials, and letters to the editor. Observational studies have shown an inverse correlation between endometriosis and a low body mass index (BMI). However, obesity does not protect against endometriosis; conversely increased BMI may lead to severe forms of endometriosis. Besides, BMI is not accurate, consequently, other anthropometric and phenomic traits have been studied, including body adiposity content, as well as the effect of BMI early in life on the manifestation of endometriosis in adulthood. Some studies have shown that the inverse correlation between the two entities has a genetic background; however, others have indicated that certain polymorphisms are linked with endometriosis in females with increased BMI. Metabolic bariatric surgery has led to the emergence of biomolecules that may be pivotal in understanding the pathophysiological interaction between the two entities, putting emphasis on angiogenesis and inflammation.

Conclusion: Most studies converge on an inverse correlation between endometriosis and obesity, as defined by increased BMI. Future research should focus on three objectives: detection and interpretation of obesity-related biomarkers in experimental models with endometriosis; integration of endometriosis-related queries into bariatric registries; and multidisciplinary approach and collaboration among specialists.

Keywords: endometriosis, obesity

121. Icg Guided Ureteral Dissection In Patient With Deep Endometriosis And Urogenital Malformation

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Introduction. In many cases Mullerian duct anomalies (MDA) are also present with urological anomalies due to their combined embryological development. The association between obstructed Mullerian duct anomalies and endometriosis has been well established, while correlation between non-obstructive MDA and endometriosis is still under investigation. Crossed fused renal ectopia is rare congenital anomaly where both kidneys lie on one side of the body and it is sometimes presenting with single ipsilateral ureter and extremely rare with ureter crossing the midline. There are few case reports in the literature describing relation between this anomaly and uterine aplasia but none according to our search describing the concomitant presence of unicornuate uterus. Pelvic surgery is a major factor for iatrogenic intraoperative ureteral injury. Surgical treatment of deep infiltrating endometriosis and MDA, is one of the riskiest procedures in this regard. Intraoperative detection of the ureters and the ability to follow their course in dynamic, significantly reduces the risk of ureteral injury, especially an unrecognized one.

Methodology: We present a case of a woman with a solitary right kidney with ureter crossing the midline and opening of the left side of urinary bladder along, unicornuate uterus with atopic position of the right ovary and deep infiltrating endometriosis in left parameter, uterine torus and left ovarian endometrioma. The patient was planned for surgery due to pain syndrome and nonresponding to hormonal treatment. Preoperative cystoscopy with intraureteral injection of ICG was performed in order to facilitate ureteric dissection and endometriosis excision.

Conclusion. The use of a NIR (near infrared) light source activating a luminescent dye - indocyanine green (ICG) introduced into the lumen of the pelvic ureter is a simple, safe and effective method for intraoperative visualization of the ureters during high-risk surgical interventions in the true pelvis.

Keywords: ICG, ureter, endometriosis

122. Therapeutic Management Of Ureteral Hydronephrosis Caused By Deep Infiltrating Endometriosis

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Introduction: Endometriosis of the urinary tract is a rare form of deep infiltrating endometriosis (DIE) occurring in about 1-2 % of all patients with endometriosis. About 10 % of these develop ureteral hydronephrosis. (1) Whether hydronephrosis caused by extrinsic obstruction of the ureter due to deep infiltrating endometriosis should be treated with radical resection and psoas-hitchplasty or Boariplasty or with the less radical surgery of ureterolysis is always a challenging decision. (2)

Methods: All patients with diagnosed ureteral stenosis who underwent surgery in our endometriosis center between 2014 and 2023 were included in this retrospective observational study. The following variables recorded for the 17 cases examined were: age, symptoms, clinical examination, method of operation, relapse rate and time of follow-up.

Results: The mean age of the patients studied was 35,35. 15 women underwent laparoscopy, extensive ureterolysis, resection of DIE, complete decompression of the ureter, and in one case partial ureteral resection and reconstruction. Two patients had a non-functional left kidney at time of diagnosis and were treated by laparoscopic left-sided nephrectomy.
A double J stent was inserted preoperatively in all patients with hydronephrosis and removed six weeks after surgery. Intraoperatively, in all cases DIE of other locations was also observed: uterosacral (all 17 cases), rectovaginal (10 cases) and intestinal (9 cases). In 9 cases there was no recurrence of hydronephrosis after surgical treatment of endometriosis and ureterolysis. 4 patients who showed recurrence of hydronephrosis underwent a secondary ureterocystneostomy. In 2 cases where in sano resection of the DIE causing the ureteral stenosis was not possible, therefore an ureterocystoneostomy was performed after multiple DJ changes.

Conclusion: Our observations have shown that a limited radicality in the treatment of ureteral hydronephrosis caused by DIE represents a justifiable treatment option.
Also DIE-related ureteral hydronephrosis appeared to be often found alongside DIE of in other locations and requires multidisciplinary treatment in an endometriosis center.

References:
1. Seracchioli R et al. (2015).Histological evaluation of ureteral involvement in women with deep infiltrating endometriosis: analysis of a large series. Hum Reprod. 04, pp. 833-9.
2. Hirnle et al. (2015) Urinary Tract Endometriosis. Urology Journal. 09, pp. 2213-2217.

123. Isolated Deep Infiltrating Endometriosis of the Sciatic Nerve: A Case Report

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A 40-year-old woman presented to her general practitioner with a five-month history of constant pain in her thigh and ischialgia during menstrual periods. There was no history of any kind of trauma and onset of the pain was sudden. Furthermore, she complained about dysmenorrhea and heavy menstrual bleeding.

However, despite anti-inflammatory medication and physiotherapy she developed increasing pain, typically sciatic in nature, from the right buttock, radiating down the posterolateral aspect of the leg and heel. This would escalate to a severe right-sided sciatic pain during menstruation. At the time of clinical assessment she had marked pain Visual Analogue Scale (VAS) 9/10. On examination, she had an antalgic gait and was unable to bear weight fully on her right leg because of the pain in her buttock and leg. The pain was exacerbated by hip flexion and knee extension. The diagnosis of sciatic endometriosis was considered. The MR scans of the lumbar spine and pelvis were normal. However, MRI on the right thigh demonstrated a mixed signal measuring approximately 2.5 cm between the sciatic notch and greater trochanted, causing localized edema (Figure 1). After preoperative evaluation, we have performed laparoscopic surgery and removed the described nodule on sciatic nerve, which was compressed but not infiltrated inside the epineurium. Our patient was discharged on postoperative day 3 with recommended continuous dienogest treatment and on our regular check-ups was without any previous signs of endometriosis. It is important to note that some authors reported a mean interval of approximately 4 years between the onset of symptoms and diagnosis.

Awareness of this condition in the differential diagnosis of sciatica is important in order to avoid delay in diagnosis and to prevent irreversible damage to the sciatic nerve.

124. Comorbidity clusters among women with endometriosis in the ComPaRe-Endometriosis cohort

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Introduction: Women with endometriosis are frequently affected by at least one comorbidity. Endometriosis is indeed associated with an increased risk of several chronic diseases, such as autoimmune, cardiovascular, atopic, or psychiatric diseases, asthma, pain-related conditions, and some cancers. While many studies analyzed the link between endometriosis and one other condition at a time, very little data are available on the associations with multiple comorbidities. The objective of our study was to identify and describe comorbidity clusters among women with endometriosis and/or adenomyosis.

Methods: ComPaRe-Endometriosis is an ongoing prospective e-cohort of over 10,000 women with endometriosis and/or adenomyosis initiated in 2018. Participants self-reported their chronic conditions, which we sorted into 14 specialty groups. Comorbidity clusters were determined using hierarchical ascendant classification and described using descriptive statistics.

Results: In total (N=10,553), 64.6% of participants reported diagnosis of endometriosis and/or adenomyosis only, while 35.4% reported at least one comorbidity (1: 51.2%, 2: 24.1%, 3: 10.4%, 4: 5.7%, 5+: 8.6%). The analysis identified 4 clusters: Cluster 1 (n=2431) included autism spectrum disorders, endocrine, dermatological, urogenital, systemic, cardiovascular, infectious, ophthalmological, cancer, hematological, and psychiatric diseases; Cluster 2 (n=1140) involved digestive and neuromuscular diseases; Cluster 3 (n=1060) consisted of rheumatological diseases; and Cluster 4 (n=724) included respiratory and Ear, Nose and Throat diseases. In each cluster, the most frequent comorbidities were: Cluster 1: depression (15.2%); Cluster 2: irritable bowel syndrome (35.9%); Cluster 3: chronic lower back pain (35.7%) and fibromyalgia (34.1%); and Cluster 4: asthma (68.0%).

Conclusion: This work identified 4 comorbidity clusters among endometriosis patients. These findings suggest a variety of comorbidity patterns that may provide new insights for the comprehensive management of endometriosis, taking into account its multiple interactions with different physiological systems. These results offer important perspectives for future endometriosis research.

Keywords: Endometriosis, comorbidity, clusters

125. Transforming the #Enzian Classification into a four-stage system: Is it possible?

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Introduction: Consistent classification of endometriosis is essential, but current classification systems (rASRM, #Enzian, AAGL2021) all have their limitations (1–4). A disadvantage of the #Enzian classification is its complex coding and interpretation, especially for patients and less experienced gynecologists. Our study aims to introduce a translation model of the #Enzian classification into a four-stage system and to evaluate its performance in a retrospective endometriosis cohort.

Material and Methods: The basic structure of the translation model was defined according to the point values used in the AAGL2021 classification for different anatomical locations. In the absence of a direct translation option, the corresponding points for the #Enzian compartments were determined in a survey of three experienced endometriosis surgeons. The final 4-stage system was then tested against the AAGL 2021 classification in a retrospective dataset of 222 consecutive endometriosis surgeries with perioperative documentation of both classifications.

Results: The distribution of endometriosis stages was similar between the two classifications, with a comparable percentage of patients in each stage (stage 1: 43% and 44%, stage 2: 23% and 25%, stage 3: 14% and 10%, stage 4: 20% and 21% for the #Enzian and AAGL2021 classifications, respectively). However, the composition of the stages differed slightly, especially in stages 2 and 3, which was shown in a transition graph. Deep endometriotic lesions in compartment B and adenomyosis are not respected in the AAGL2021 classification.

Discussion: The #Enzian classification can be easily converted to a 4-stage scoring system similar to the AAGL 2021 classification. The study indicates that there is currently no need to use an alternative scoring system other than the #Enzian classification, which is the most comprehensive. Perhaps artificial intelligence (AI) could help to determine appropriate point values based on different outcome parameters (e.g., pain, infertility, surgical complexity,…

1. Johnson NP, Hummelshoj L, Adamson GD, Keckstein J, Taylor HS, Abrao MS, et al. World endometriosis society consensus on the classification of endometriosis. Human Reproduction. 2017 Feb 1;32(2):315–24.
2. Abrao MS, Andres MP, Miller CE, Gingold JA, Rius M, Neto JS, et al. AAGL 2021 Endometriosis Classification: An Anatomy-based Surgical Complexity Score. J Minim Invasive Gynecol. 2021 Nov 1;28(11):1941-1950.e1.
3. Haas D, Shebl O, Shamiyeh A, Oppelt P. The rASRM score and the Enzian classification for endometriosis: Their strengths and weaknesses. Vol. 92, Acta Obstetricia et Gynecologica Scandinavica. 2013. p. 3–7.
4. Keckstein J, Saridogan E, Ulrich UA, Sillem M, Oppelt P, Schweppe KW, et al. The #Enzian classification: A comprehensive non-invasive and surgical description system for endometriosis. Vol. 100, Acta Obstetricia et Gynecologica Scandinavica. John Wiley and Sons Inc; 2021. p. 1165–75.

126. Case Series Review of Endometriosis Associated Ovarian Cancer (EAOC) from a Tertiary Endometriosis Centre.

Parfitt, Ahmad, Aissa, Dutta.

Intro: Endometriosis is a chronic, debilitating, life-long condition that effects 10% of women, up to 30% of women with subfertility and up to 60% of women with chronic pelvic pain. It is well established that endometriosis shares many pathogenic features of cancer development such as the chronic inflammatory environment, tissue invasion, active angiogenesis and resistance to apoptosis. Recently, data has accumulated to suggest endometriosis is associated with an increased ovarian malignancy risk termed, Endometriosis Associated Ovarian Cancer (EAOC)

Methods: We have conducted a review of all patients with the three following criteria: 1) malignant change within an existing endometrioma 2) malignant change in a contralateral ovary to an existing endometrioma or 3) ovarian cancer with deeply infiltrative endometriosis.

Results: We will present expert opinion and lessons learned for a case series >n=10 to direct high suspicion of malignancy based upon radiological findings, namely, unilocular lesions and hypo-intensity on T1-weighted images in the cystic components of existing endometriomas.

Conclusion: The clinical diagnosis of EAOC is challenging. Endometrioma is a frequent finding in women with endometriosis, while EAOC is a rare occurrence. MRI has an essential supportive role and we have delineated the essential findings that should raise suspicion of malignancy. Women with EAOC are diagnosed at an earlier stage and have a more favourable histological grade than other ovarian forms of ovarian cancer with no endometriosis with better progression-free and overall survival rates.

127. The Immune Micorenvironment in Endometriosis

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Introduction: Endometriosis is a chronic estrogen-dependent condition affecting the female reproductive system and intra- and extraperitoneal regions. Recent research highlights the critical role of immune cells, such as macrophages and lymphocytes, in the process of angiogenesis and the invasion of endometriotic cells by matrix remodelling. Furthermore, investigations have pointed out the significance of E-cadherin, β-catenin, and steroid hormone receptors in the progression of endometriosis.

Methods: In light of this, our research focused on examining the interplay between the immune cell profile and the expression of E-cadherin, β-catenin, estrogen receptor alpha (ERα), and progesterone receptor (PR) in endometriosis tissues. This study encompassed 53 individuals diagnosed with either ovarian or abdominal wall endometriosis, employing standard histology and immunohistochemistry (IHC). Following the IHC method, we performed a semiquantitative assessment of the inflammatory infiltrate immunoreactivity, along with epithelial and stromal adhesion molecules and hormone receptors expression, using their corresponding scores available in literature.

Results: The IHC findings indicated a marked increase in the presence of CD4+ T-cells, CD8+ T-cells, and CD68+ macrophages, along with variable expressions of E-cadherin, β-catenin, ERα, and PR. Statistical analysis identified a strong positive correlation specifically between CD68 and PR expression ($p<0.05$). No other significant associations were found either among IHC markers or between IHC and serological markers.

Conclusions: The study may provide important details regarding the initiation and development of the disease, along with possible pathways of interaction between several types of inflammatory cells, probably initiated by inflammatory macrophages, in the context of unbalanced hormonal milieu, and changes of intercellular adhesion molecules. This study contributes to a better understanding of the immune environment in endometriosis, shedding light on its intricate pathogenic molecular pathways. It suggests the need for further investigation into novel immune-based treatments, such as the use of immune checkpoint inhibitors or T-cell-specific immunotherapies for affected individuals.

Keywords: endometriosis, inflammation, T-cells, macrophages, adhesion molecules, steroid hormones.

128. The Effect Of An Innovative Pelvic Pain Management Programme On Reducing Acute Pelvic Pain-Related Hospital Events

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Introduction/Background: Persistent pelvic pain is one the most common gynaecological referrals in the UK (1). Consequently, pelvic pain incurs a significant financial burden. Recent financial analysis demonstrates that it costs £218.45 for a gynaecology 'Hot Clinic' appointment, £390 for an ED attendance and £375 per 24-hour gynaecology inpatient stay. A novel pelvic pain management programme (PPMP) initiated at North Bristol NHS Trust in 2021 is the first programme of its kind in the Southwest region. We aimed to identify the impact of the programme upon the number of pelvic pain-related acute hospital events (ED attendances, 'Hot Clinic' visits and gynaecology ward admissions including length of stay) and quantify the associated financial impact.

Methods/Methodology: 27 patients suffering from persistent pelvic pain were recruited onto the programme. For each participant, clinical records were used to ascertain the number of acute, pelvic pain-related hospital events in the 12 months prior to the programme and 12 months after completion of the programme. This data was used to calculate the average cost of acute hospital presentations per patient before and after the programme, which enabled us to assess the financial impact of our PPMP in relation to acute hospital presentations.

Results: Within the cohorts studied, there was a 91.3% decrease in costs per patient because of reduced acute hospital events. During the 12 months prior to the PPMP there was an average total cost of £648.47 per patient. In the 12-month follow-up period, each patient incurred on average a cost of £56.67. This equates to a saving of £591.80 per patient.

Conclusions/Discussion: Our data suggest that PPMPs have the potential to significantly reduce acute hospital events related to pelvic pain. Furthermore, our cost analyses demonstrate that, as a consequence of reduced pain-related presentations, PPMPs could deliver significant reductions in the financial burden of pelvic pain.

References:1. Latthe P, Mignini L, Gray R, Hills R, Khan K. Factors predisposing women to chronic pelvic pain: systematic review. Bmj. 2006;332(7544):749-55.

129. MLLT11 Regulates Endometrial Stroma Cell Adhesion, Proliferation and Survival in Ectopic Lesions of Women with Advanced Endometriosis

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Introduction: MLLT11 is a gene implicated in cell differentiation and the development and progression of human cancers, but whose role in the pathogenesis of endometriosis is still unknown.

Materials and Methods: This study is designed as combined prospective patient cohort study combined with experiments in primary human endometrial stroma cell to determine the role of MLLT11 in endometriosis. Endometrium and endometriosis lesion samples were collected from premenopausal women from 33 control and 37 endometriosis patients by laparoscopic surgery (EK 545/210). Immunohistochemistry and reverse transcription Q-PCR were used to analyze the differences in the levels of MLLT11 expression in tissue samples of women with and without the disease and the role of MLLT11 in endometriosis was assessed by siRNA knockdown in primary endometrial stroma cells followed by proliferation, apoptosis, invasion and adhesion assays.

Results: We found that MLLT11 is reduced in the ectopic stroma cells of women with advanced stage endometriosis, compared to women without endometriosis. The cellular phenotype of MLLT11 knockdown cells resembled the phenotype of the primary endometriosis stroma cells of the lesion, where the levels of MLLT11 are significantly reduced compared to the eutopic stroma cells of women without the disease. MLLT11 knockdown in control stroma cells resulted in the downregulation of their proliferation accompanied by G1 cell arrest and an increase in the expression of p21 and p27. Furthermore, the knockdown of MLLT11 was associated with increased apoptosis resistance to camptothecin associated with changes in BCL2/BAX signaling. Finally, MLLT11 siRNA knockdown in the control primary stroma cells led to an increase in cell adhesion associated with the transcriptional activation of ACTA2 and TGFB2.

Conclusion: MLLT11 may be a new clinically relevant player in the pathogenesis of endometriosis. Key words: endometriosis, MLLT11, apoptosis resistance

Key words: endometriosis, MLLT11, apoptosis resistance

130. Outcomes After Surgery For Bowel Endometriosis - A Retrospective Analysis

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Objective: To evaluate the surgical outcomes and complications in patients with deep-infiltrating bowel endometriosis over a period of 35 months.

Introduction/Background: Surgical strategies for deep infiltrating bowel endometriosis include segmental resection, disc resection, and shaving of the bowel. These procedures can entail intra- and postoperative complications.

Methods: This is a retrospective analysis of 32 women undergoing surgery for bowel endometriosis between January 2021 and November 2023 at our institution. All women underwent comprehensive preoperative assessment and multidisciplinary treatment planning according to published recommendations and utilized the #Enzian classification.[1,2]

Results: 11 patients (34%) underwent surgery for pain, 20 (63%) for both infertility and pain, and 1 (3%) for asymptomatic hydroureteronephrosis. Symptoms included chronic pelvic pain (5, 16%), dysmenorrhea (30, 97%), dyspareunia (24, 77%), dyschezia (25, 81%), and dysuria (5, 16%). Patients underwent either laparoscopic (22, 69%) or robotic-assisted (10, 31%) surgery. Conversion from laparoscopy to laparotomy occured in 1 (3%) patient. Bowel procedures included rectal shaving (n=12, 38%), segmental resection (20, 63%), disc excision (2, 6.3%), and shaving plus segmental resection (2, 6%). No patients developed anastomotic leak or bowel stenosis. One patient (3%) developed a ureteral complication resolved by temporary ureteral stenting without further impairment (Clavien-Dindo grade IIIA). None of the patients developed low anterior resection syndrome (LARS).

Conclusion: A multidisciplinary approach is crucial for treating endometriosis with bowel involvement. Precise patient selection and a tailored, comprehensive approach result in favourable outcomes and low complication rates.

References [1] Working group of ESGE, ESHRE, and WES, Keckstein, J., Becker, C. M., Canis, M., Feki, A., Grimbizis, G. F., Hummelshoj, L et al. (2020). Recommendations for the surgical treatment of endometriosis. Part 2: deep endometriosis. Hum Reprod Open, 2020(1), hoaa002: pp.2-16.

[2] Keckstein, J. et al. (2021). The #Enzian classification: A comprehensive non-invasive and surgical description System for endometriosis. AOGS, 2021(7), pp1165-1175.

Key words: bowel endometriosis, rectal shaving, segment resection

131. The impact of myofascial pelvic pain on female sexual function

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Introduction: Myofascial pelvic pain (MFPP) is a prevalent, yet frequently overlooked condition characterized by painful myofascial trigger points (MTrPs) located within the pelvic muscles.(1,2) Affected women often experience a severe negative impact on their quality of life.(3) As female sexual health is of high significance for both individual quality of life and in relation to myofascial pelvic pain, we here aim to investigate the connection between MFPP and women's sexual functioning.

Methodology: 83 premenopausal women with benign gynecological conditions like ovarian cysts, endometriosis and fibroids were included in this pilot study. Assessment involved anamnesis, subjective pain intensity measured by visual analogue scale, an established standardized examination method providing internal palpation scores for MFPP, and the German Female Sexual Function Index (FSFI) questionnaire.

Results: Women with MFPP (37; 44,6%) had more days with pain per month (8 vs 3, p=0.002), and higher median VAS scores for dyspareunia (4 vs 0, p<.001) than women without MFPP (46; 55,4%). We found a significant negative correlation between the extent of MFPP and FSFI scores (r-0.35, p<.001). In detail, we observed significant negative correlations in the subdomains pain (r=-.364, p<.001), lubrication (r =-.230, p ≤.005), and arousal (r=-.360, p<.001).

Conclusions: With dyspareunia and recurrent pelvic pain as key features, MFPP has a significant negative impact on female sexual health and functioning with an emphasis on pain, arousal, and lubrication. This understanding combined with raised awareness for MFPP could provide the foundation for an individualized therapy, thereby improving the quality of life of affected women.

Keywords: myofascial pelvic pain; sexual health; dyspareunia;

References:
1. Simons DG. Clinical and Etiological Update of Myofascial Pain from Trigger Points. Journal of Musculoskeletal Pain. 1. Januar 1996;4(1–2):93–122.
2. Aredo JV, Heyrana KJ, Karp BI, Shah JP, Stratton P. Relating Chronic Pelvic Pain and Endometriosis to Signs of Sensitization and Myofascial Pain and Dysfunction. Semin Reprod Med. Januar 2017;35(1):88–97.
3. De Graaff AA, D'Hooghe TM, Dunselman GA, Dirksen CD, Hummelshoj L, Werf EndoCost Consortium, u. a. The significant effect of endometriosis on physical, mental and social wellbeing: results from an international cross-sectional survey. Hum Reprod. Oktober 2013;28(10):2677–85.

132. qMRI value thresholding: Isolating 'chocolate cyst' endometrioma – a case report

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Introduction: Endometriomas are cysts formed by endometriosis, signalling advanced disease (stage II+ ASRM scoring) (Hoyle and Puckett, 2023) (ASRM 1997). The accumulation of old blood, fibrotic content and iron causes the characteristic thick, dark brown contents thus the commonly used name 'chocolate cysts'. Current imaging modalities offer limited information on the contents and age of endometriomas. Quantitative MRI (qMRI) has demonstrated ability to detect fibrosis and iron in the liver (Banerjee et al., 2014), suggesting its potential to provide insights into the characteristics of endometriomas.

Method: 5 endometrioma cases were identified in pelvic MRI scans from a cohort of 35 participants with confirmed histological diagnosis of endometriosis. Preliminary analysis of data found that endometriomas have characteristic qMRI metrics. Value thresholding criteria were applied to the MRI images of a patient with two large endometriomas. Surgical findings confirmed bilateral ovarian endometriomas measuring 10 cm (left) and 5cm (right) in diameter.

Results: We applied threshold criteria to our case qMRI images to retain pixels with $T1 \leq 600ms$, $T2^* \geq 35ms$, and $PDFF \leq 5\%$. We benchmarked our technique against free-hand segmentation which had a total surface area of $8939mm^2$. Our method flagged an area of $6351mm^2$ within the segmentation as potential endometrioma with minimal false positives. This resulted in a sensitivity of 71.0% and a specificity of 99.9% for detecting endometriomas in this case.

Conclusion: Value thresholding has demonstrated a novel approach for isolating & identifying endometriomas. Our approach will be evaluated on further cases of endometriomas to acquire deeper understanding of the spectrum of values these lesions display. This approach may help build an endometrioma detection model from their qMRI metrics. To improve this diagnostic tool further, studies are required to correlate the qMRI findings with fibrotic content and iron concentrations.

References:
1997. Revised American Society for Reproductive Medicine classification of endometriosis: 1996. Fertil Steril, 67, 817-21.
Banerjee, R., Pavlides, M., Tunnicliffe, E. M., Piechnik, S. K., Sarania, N., Philips, R., Collier, J. D., Booth, J. C., Schneider, J. E., Wang, L. M., Delaney, D. W., Fleming, K. A., Robson, M. D., Barnes, E. & Neubauer, S. 2014. Multiparametric magnetic resonance for the non-invasive diagnosis of liver disease. J Hepatol, 60, 69-77.
Hoyle, A. T. & Puckett, Y. 2023. Endometrioma. StatPearls. Treasure Island (FL).

133. Is there a correlation between ASRM stage and symptom intensity in endometriosis?

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Introduction: A correct assessment of lesion extension in endometriosis and its impact on the quality of life, and therefore, a correct management is crucial for the patient's outcome. Pain is the leading symptom in endometriosis and its perception by the patient is the starting point in disease management. We aimed to investigate if there is a relationship between disease extent, classified using the American Society of Reproductive Medicine (ASRM) staging, and the intensity of symptoms.

Method and materials: We conducted a retrospective study in which we included 174 patients with deep infiltrating endometriosis who were treated with laparoscopic lesion excision by our team. Patient charts and an online questionnaire were used for data gathering.

Results: The 3 main symptoms from our patients' complaints were dysmenorrhea, the most frequent one (91%), followed by dyspareunia (57%) and chronic pelvic pain (63%). Associated symptoms with dysmenorrhea consisted mainly of bloating, followed by diarrhea, constipation and chronic fatigue. The most frequent ASRM stages in our group were III and IV, 30% and 58% respectively. We used the Visual Analog Scale (VAS) as a reference for symptom intensity. After analyzing the main VAS score of different symptoms for each ASRM stage we found no statistic significance between them.

Conclusion: Our results highlight the importance of preoperative evaluation of women with suspected deep infiltrating endometriosis, since severe symptoms do not necessary lead to wide spread disease. One of the main goals is to improve the ability to use cost efficient and minimally invasive diagnostic techniques, such as sonography, to have a clear understanding of the disease and to further proceed with multidisciplinary care, if needed.

Key words: endometriosis, ASRM, symptoms

134. Endometriosis-associated ovarian carcinoma (EAOC) - case report

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Introduction: Case report of a 32-year-old sterile patient with findings on the right adnexa.

Method: Studies have shown endometriosis-associated ovarian carcinoma (EAOC), which includes ovarian clear cell carcinoma (OCCC), endometrioid carcinoma, and rare seromucinous tumors.
It has been observed that certain genetic mutations are present in endometriosis as well as in endometrioid carcinoma and clear cell carcinoma.

Case report: A 32-year-old woman presented with primary infertility and findings on the right adnexa. Ultrasound: A multilocular solid mass measuring 130x93x100 mm was found on the right side of the uterus. During surgery, an endometrioid tumor of the left adnexa in the area of endometriosis was confirmed: The patient underwent resection of the left ovary, omentectomy, appendectomy, pelvic and suprapelvic lymphadenectomy, with a final result of endometrioid adenocarcinoma of the ovary G1 type pT1apN0 (0/19). Postoperative care included regular follow-up every 4 months - monitoring tumor marker CA 125 and pelvic ultrasound focusing on the area of the left adnexa. At the January follow-up, a recurrence of mass in the left ovary area was detected, along with 2 thick-walled cysts measuring 26 and 28 mm with fine echogenic content, and a lymphocele measuring 67x56x67 mm on the right side of the uterus.
Subsequently, a laparotomic surgical revision was indicated, with excision of the lymphocele and resection of the left ovary. This time, the histological result was negative, confirming only endometriosis. Currently, the patient is without complaints, under the care of an assisted reproduction center.

Conclusion: It is essential to remember that in young sterile women, it is not always a benign condition. When there is suspicion of a tumor, it is always important to have the option of perioperative examination and, if positive, to perform an adequate operation that is sufficiently radical while preserving fertility, as in our case.

135. "Endometriosis Affects An Estimated 1 To 10 Of Women Of Childbearing Age": How Close Are We To The Truth? Disentangling The Prevalence Data Of The Endometriosis Literature

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Introduction/Background: Endometriosis is a gynecological condition often described as the "chameleon of gynecology" due to its elusive symptoms[1]. Even with the standard treatment, which includes surgery and endocrine therapy, the recurrence rate remains high at 50-80%[2,3]. There is limited literature on the prevalence of endometriosis, which is essential for effective prevention, treatment strategies, and funding. We aim to structure and present the peer-reviewed published data on endometriosis prevalence, considering temporal references, origin of the data, and population studied synthesizing the discrepancy between health insurance and clinical data.

Methods/Methodology: Electronic databases PubMed, Cochrane CENTRAL, and LIVIVO were researched using MeSH terms endometriosis OR endometrio* OR adenomy* OR pelvi* and pain* OR dysmenorrh* OR dysche* OR dyspareun* AND prevalence*. Papers published between January 2000 and July 2023 were selected. Reference lists of the included studies were reviewed. The pooled prevalence was obtained by calculating the median of the prevalence and 95% confidence intervals.

Results: A total of 3366 articles were obtained. Based on titles and abstracts, full texts of 202 papers were assessed for eligibility. One additional article was obtained based on the manual search of the reference lists. Finally, 103 papers from 36 countries were included in this review. Health insurance companies argue that few women (≈1%) are affected by endometriosis. Interestingly, prevalence of clinical data studies (6.8%), population-based surveys/ self-reported studies (6.6%), and symptomatic patient data (21%) revealed a different picture. Based on the data gathered, a multi-layered prevalence model, the onion model has been proposed.

Conclusions/Discussion: The variability in the estimates of endometriosis may be influenced by the heterogeneity in designs and analyzed data, as well as the clinical complexity and difficulties involved in diagnosing the condition. In summary, this narrative review reveals that endometriosis prevalence is higher than health insurance and other stakeholders might have previously assumed.

References:
1. Mechsner S. Endometriosis, an Ongoing Pain-Step-by-Step Treatment. *J Clin Med* 2022; 11(2).
2. Duckelmann AM, Taube E, Abesadze E, Chiantera V, Sehouli J, Mechsner S. When and how should peritoneal endometriosis be operated on in order to improve fertility rates and symptoms? The experience and outcomes of nearly 100 cases. *Arch Gynecol Obstet* 2021; 304(1): 143-55.
3. Gruber TM, Mechsner S. Pathogenesis of Endometriosis: The Origin of Pain and Subfertility. *Cells* 2021; 10(6).

136. Screening of trace element status and mucin o-glycomes in endometriosis

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Introduction/Background: There is compelling evidence suggesting that the status of essential trace elements, with a particular focus on zinc, play a pivotal role in endometriosis progression. The condition seems to be intricately linked to disruptions in zinc homeostasis[1,2], as well as alterations in mucin expression and glycosylation[3]. These processes are known to be intertwined with changes in zinc status[4]. Nevertheless, the precise impact of zinc on endometriosis and its connection with an altered mucin *O*-glycome remains unclear. Additionally, there is a notable lack of data concerning the general trace element status among endometriosis patients, and the underlying mechanisms through which zinc or other essential trace elements influence this disease have yet to be thoroughly investigated. This study aims to fill these knowledge gaps by comprehensively analyzing the trace element status and mucin *O*-glycome in endometriosis lesions. Through this research, we seek to shed light on the intricate relationship between essential trace elements, particularly zinc, and the development and progression of endometriosis.

Methods/Methodology: The study included 38 endometriosis patients with peritoneal, ovarian, and deep infiltrating endometriosis and 66 controls (women without endometriosis). The status of trace elements in serum and peritoneal fluid was analysed by inductively coupled plasma mass spectrometry and a fluorescence-based assay for the detection of free zinc[5]. Mucin expression and secretion in endometriosis are being performed at the transcript level using quantitative real-time PCR and selected mucins (MUC1, MUC2, MUC5AC, MUC6, and MUC16) are being analyzed by immunohistochemistry. MUC16(CA-125) is being evaluated in peritoneal fluid.

Results: Altered levels of zinc, copper, manganese, and iron were observed in serum and peritoneal fluid of endometriosis patients compared with controls. Particularly, endometriosis patients showed increased copper/zinc levels compared to non-affected individuals.

Conclusions/Discussion: This study provides first insights into the correlation of endometriosis with an altered trace element status and mucin *O*-glycome.

References:
1. Yilmaz BK, Evliyaoglu O, Yorganci A, Ozyer S, Ustun YE. Serum concentrations of heavy metals in women with endometrial polyps. *J Obstet Gynaecol* 2020; **40**(4): 541-5.
2. Lai GL, Yeh CC, Yeh CY, et al. Decreased zinc and increased lead blood levels are associated with endometriosis in Asian Women. *Reprod Toxicol* 2017; **74**: 77-84.
3. Konrad L, Gronbach J, Horne F, et al. Similar Characteristics of Endometrial and Endometriotic Epithelial Cells. *Reprod Sci* 2019; **26**(1): 49-59.
4. Maares M, Keil C, Straubing S, Robbe-Masselot C, Haase H. Zinc Deficiency Disturbs Mucin Expression, O-Glycosylation and Secretion by Intestinal Goblet Cells. *Int J Mol Sci* 2020; **21**(17).
5. Alker W, Schwerdtle T, Schomburg L, Haase H. A Zinpyr-1-based Fluorimetric Microassay for Free Zinc in Human Serum. *Int J Mol Sci* 2019; **20**(16).

137. Laparoscopic management of adenocarcinoma arising from recto-vaginal endometriosis

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Introduction/Background. The reported incidence of malignant transformation of endometriosis is between 0.7-1% of patients. 80% of endometriosis associated malignancies occur in the ovaries with only 20% occurring in extra-ovarian sites. Extragonadal malignancies arising from endometriosis are extremely rare.

Methods/Methodology. We report the case of a 42 year old patient with a history of stage IV endometriosis presenting with vaginal bleeding. Pelvic examination indicated a posterior cul-de-sac solid mass. The MRI showed a recto-vaginal septum mass infiltrating the posterior vaginal wall, cervix and rectum. A biopsy is performed that indicated a clear cell carcinoma of the recto-vaginal septum secondary to endometriosis.

The case was submitted and discussed in the multidisciplinary tumor board committee in which a a joint gynecological-surgical laparoscopic surgery was decided.

Results. Piver type 2 radical histerectomy with partial vaginectomy and pelvic lymphadenctomy were performed, low anterior resection of the rectum was performed and the specimen was extracted en-bloc through the vagina. ICG was used to assess bowel perfusion after resection prior to and after completion of the anastomosis. Staple line integrity was tested using the Michelin air-leak test and rectoscopy was performed to evaluate anastomosis bleeding.

Conclusions/Discussion. Due to the rarity of such cases and lack of adequate data standard management guidelines are not available. Although extragonadal malignancy of endometriosis nodules are an extremely rare entity, gynaecologists, general surgeons and pathologist should be aware of this possibility.

138. Green means 'stop' – using ICG to delineate the uterine cavity during robotic myomectomy

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Objective: To demonstrate the use of indocyanine green (ICG) with near-infrared light (NIR) during robotic myomectomy to avoid breaching the uterine cavity.

Background: Fibroids are the most common occurring tumour of the uterus, with the majority being benign. Symptoms can range from abnormal uterine bleeding, subfertility or pain/bloating/LUTS from mass effect.
Uterus preserving surgical management, myomectomy, can be offered via an open or minimally invasive approach. Although evidence is mixed, breaching the cavity may have fertility implications and increase the likelihood of intrauterine adhesions[1].
Therefore, care should be taken to ensure the cavity is not breached. Methylene blue can be used, but may be less advantageous as it would highlight if the breach occurred, rather than preventing it. ICG with NIR can be useful in several scenarios, but is particularly useful in delineating a luminal structure.

Patient and Procedure: The patient was a thirty-six-year-old P0 with significant mass effect and abnormal uterine bleeding symptoms with associated anaemia. MRI revealed multi-fibroid uterus the largest measuring 7cm.The robotic-assisted procedure demonstrates concurrent endometriosis, different techniques to manage haemostasis, methods for specimen retrieval and robotic myomectomy. Fifteen fibroids were removed via multiple uterine incisions. The ICG has been used to clearly delineate the endometrial cavity and choose the dissection plane. This not only facilitated complete excision of the fibroids but also keeping the endometrial cavity intact during dissection and repair of the defect.

Conclusion/Discussion: ICG with NIR can be utilised during myomectomy to help ensure the uterine cavity is not breached during myomectomy.

References: Gnanachandran C, Penketh R, Banzal R, Athauda P. Myomectomy Benefits, Risks, Long-Term Outcomes, and Effects on Fertility and Pregnancy Outcomes: A Literature Review. Vol. 39, Journal of Gynecologic Surgery. 2023.

139. Robotic Excision of an Accessory Cavitated Uterine Malformation (ACUM) with ICG assessment of the Uterine Cavity

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Objective: To highlight the surgical management of a rare cause of dysmenorrhoea - accessory cavitated uterine malformation (ACUM).

Background: The true prevalence of ACUM is not known, but it is rare. The proposed pathogenesis is a Müllerian Duct abnormality. There are published case series on surgical management of ACUM, but there is still a relative paucity of data[1].

Patient and Procedure: The patient was a twenty-two-year-old referred to a tertiary minimally invasive gynaecology centre. She reported premenstrual, menstrual and non-cyclical pain as 10/10, 4/10 and 8/10 respectively. The diagnosis was queried when an ultrasound was performed to investigate her symptoms and further MRI confirmed appearances typical with ACUM.
The DaVinci Xi was used to perform the robotic-assisted laparoscopy. Following demonstration of patent fallopian tubes and excision of endometriosis, temporary vascular clips were applied bilaterally to the origin of the uterine arteries and ovarian suspensory ligaments.

Diluted vasopressin was injected into the myometrium surrounding the ACUM. A vertical incision was performed overlying the malformation and dissected to expose the capsule until it was completely excised. The myometrium was closed with continuous V-Loc 2-0 and serosa opposed with interrupted Monocryl 2-0.
Indocyanine green with near-infrared light was utilised throughout the procedure to:
Confirm tubal patency at the beginning and end of surgery.
Ensure the uterine cavity and fallopian tube were not breached.

Conclusion: The patient characteristics were typical for ACUM. This video presents a safe approach to excision of this malformation that other surgeons can consult when managing patients with ACUM.

References:
1. Setty T, Naftalin J, Jurkovic D. Accessory cavitated uterine malformations (ACUMs): an unfamiliar cause of dysmenorrhoea. The Obstetrician & Gynaecologist. 2022;24(1).

140. De-bulk Discoid excision - a method to facilitate transanal excision in nodules >3cm

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Aim: Demonstrate a Robotic Assisted Technique for Discoid Resection of a Rectal Endometriotic Nodule >3cm

Background: Colorectal endometriosis is seen in up to 12% of patients with deep endometriosis. Surgical strategies include bowel shave, discoid, or bowel resection. Discoid resection is typically reserved for singular nodules measuring ≤3 cm in size and >7 mm deep, or multiple nodules; however, more recently surgical groups are performing successful discoid resection on larger/multifocal nodules[1–3].

Patient and Intervention: Our video concerns a 35-year-old, para 0, who had 4 previous laparoscopic excisions of endometriosis. MRI pre-op demonstrated a rectal nodule 13cm above the anal verge, 3cm in length with 10mm of muscularis thickening. The MDT concluded that segmental resection was likely.
Intraoperatively, the extensive endometriosis was excised using SOSURE technique (#ENZIAN: P1, O0/2, T3/2, A1, B2/1, C3, FA). The rectal nodule was assessed and with expertise of both consultant gynaecologist and colorectal surgeon, a discoid resection performed. The bowel lumen was opened for effective debulking of the nodule. This enabled all disease to be fed into the CDH circular endostapler, despite the nodule initially being >3cm, and avoided a more significant segmental resection. Post excision, indocyanine green and flexible sigmoidoscopy demonstrated no anastomotic leakage or stenosis respectively. Blood loss was <100ml and post operative recovery was uneventful.

Conclusion/Discussion: Advanced surgical skills are required to perform effective and safe discoid resection. Thorough preoperative evaluation is of utmost importance to plan the surgical approach but should always be reassessed intraoperatively to confirm the best strategy to optimise patient outcome. Further studies are needed to establish clear eligibility criteria for each surgical strategy to guide surgeons in their approach.

References:
1. Malzoni M, Casarella L, Coppola M, Falcone F, Iuzzolino D, Rasile M, et al. Preoperative Ultrasound Indications Determine Excision Technique for Bowel Surgery for Deep Infiltrating Endometriosis: A Single, High-Volume Center. J Minim Invasive Gynecol. 2020;27(5).
2. Wojtaszewska A, Lewin J, Jurkovic D, Saridogan E, Vashisht A, Cutner A, et al. Ultrasound Prediction of Segmental Bowel Resection in Women with Rectovaginal Endometriosis: A Single-Center Experience. J Minim Invasive Gynecol. 2022;29(9).
3. Roman H, Dennis T, Forestier D, François MO, Assenat V, Tuech JJ, et al. Disk Excision Using End-to-End Anastomosis Circular Stapler for Deep Endometriosis of the Rectum: A 492-Patient Continuous Prospective Series. J Minim Invasive Gynecol. 2023;30(2).

141. Excision of Nerve Endometriosis - demonstrating of how far and wide the disease can infiltrate

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Aims: Demonstrate the excision of endometriosis with significant lateral and posterior infiltration, affecting the right lumbosacral plexus, ureter and anterior division of the internal iliac vessels.

Background: Nerve endometriosis is rare (0.1%) but can have a significant effect on quality of life. Symptoms and signs include cyclical/non-cyclical pain with associated dermatomal distribution and/or motor weakness. Neuropelveology is a surgical subspecialty referring to the diagnosis of injuries /dysfunctions of the pelvic nerves with the treatment of the symptoms/diseases caused by them. Surgical management involves neurolysis of one or more nerves. This requires careful dissection and skeletonization of these structures with the intention to normalise the anatomy[1].

Patient/Interventions: The patient was a 37-year-old P2 with cyclical gluteal pain and sciatica.
MRI had revealed significant lateral infiltration up to the right obturator internus with the disease enveloping the anterior division of the internal iliac vessels and lumbosacral plexus.
At robotic-assisted laparoscopy, following hysterectomy, extended colpotomy for vaginal endometriosis and shave of rectal endometriosis, a medial and lateral approach was taken to delineate the nodule. The nodule had enveloped the entirety of the anterior division of the internal iliac, which had to be ligated to remove the disease. Careful and cautious dissection is demonstrated to circumnavigate the nodule and finally excise it entirely from the lumbosacral plexus. The video also highlights the management of a vascular injury. The distal branches of the now ligated internal iliac can be clearly seen also.

Conclusion/Discussion: Endometriosis has an innate capacity to infiltrate surrounding structures; displayed to a severe extent in this case. Careful planning and discussion is paramount. Multidisplinary surgery offers procedural flexibility and facilitates appropriate decision making in cases such as this.

References: Possover M, Schneider T, Henle KP. Laparoscopic therapy for endometriosis and vascular entrapment of sacral plexus. Fertil Steril. 2011;95(2).

142. The visual effect of a down-regulation with Dienogest and GnRH analogues in endometriosis: lessons learned from two-step surgical approach

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Introduction: To evaluate the intraoperative visual effect of treatment with GnRH-analogues and Dienogest in endometriosis.

Methods: A total of 193 patients with histological proven endometriosis from 2007 to 2021 were included, who underwent two step surgical procedure.
Indication were endometrioma before CO2-Laser therapy, missing consent because of emergencies or other surgeries from other disciplines, or high active and extended disease. When endometriosis was suspected in a surgery conducted by other disciplines, a gynecological surgeon was called during the surgery.
Data and intraoperative videos were retrospectively reviewed by two independent reviewers at one referral center. Only cases with available video of first and second look laparoscopy were included. We excluded patient who had prior hormonal treatment in the last 6 months.

Results: 77 received GnRH-analogues and 116 Dienogest for preoperative hormone down-regulation. The median duration of down-regulation with GnRH-analogues or Dienogest was 3 months. The mean age was 32.3 (SD 6.3) years for GnRH-analogues and 32.6 (SD 6.3) years for Dienogest, p=0.619 respectively. The visible intraoperative effect will be demonstrated in the video.

Conclusions: The effect of a hormonal treatment can be observed macroscopically in endometriosis. This can help to understand the in vivo response to the administrated treatment. This video is showing our past experience, as performing second-look laparoscopy is not state of the art anymore.

Keywords: Endometriosis, Dienogest, GnRH-analogue

Conflicts of interest. All authors declared there are no conflicts of interest related to this work. **Ethics approval.** The study was approved by the local ethics committee.

143. The Prevalence of Pelvic Endometriosis in Infertility

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Introduction: Couple infertility is defined as the inability of a heterosexual couple to achieve pregnancy for 12 months, with partners having sexual intercourse at least twice a week.
Materials and methods: The study was carried out on a group of 50 patients aged 24 to 45 years presenting to their gynaecologist for couple infertility. Note that all partners of the patients included in the study had spermograms within normal limits. A sonohysterosalpingogram and monthly ovulation tests were initially performed on all patients in conjunction with transvaginal ultrasound over a period of 3 months.

Results:
In 19 patients, one or bilateral tubal obstruction was observed on sonohysterosalpingography, right - 7, left - 5 and bilateral - 7.
In 21 patients anovulatory cycles were observed, 14 of them had micropolycystic ovarian syndrome.
In 10 patients, endometriotic cysts were detected ultrasonographically, 3 in the right ovary, 3 in the left ovary, 2 in both ovaries and 2 located in the Douglas sac fundus (non-homogeneous formations with ultrasonographic features of deep endometriosis).
Exploratory laparoscopy was also performed for tubal reperfusion in 19 patients with tubal obstruction. In 7 of these cases, superficial endometriotic foci of various locations were also found which were initially not detected on transvaginal ultrasound examination.
All 10 patients ultrasonographically detected with ovarian endometriotic cysts or Douglas pouch endometriomas underwent complementary MRI examination and were subsequently treated surgically.
7 of the 17 cases of surgically certified endometriosis (laparoscopically or classically) also had micropolycystic ovarian syndrome with anovulatory cycles.
Micropolycystic ovaries, anovulatory cycles - 38%
Tubal obstruction - 35%
Endometriosis - 20%

Conclusion: Endometriosis continues to remain one of the most important causes of female infertility.

Keywords: *endometriotic foci, deep endometriosis*

144. Clinical and Statistical Correlations between Pelvic Pain and Endometriosis

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Introduction: Endometriosis is a painful chronic condition that affects millions of women worldwide. In this research, carried out at the Emergency County Hospital in Constanta, we investigated the relationship between pain intensity and duration and the stage and location of endometriosis foci in a group of 17 patients diagnosed and surgically certified. This study is important because it may provide a better understanding of how pain severity and duration may vary with the size and location of endometriosis.

Materials and methods: The study was conducted in the Emergency County Hospital in Constanta on a group of 17 patients aged between 24 and 45 years diagnosed and surgically certified (laparoscopic or by classical open surgery) with endometriosis. Of the patients, 10 were diagnosed clinically and through imaging and then surgically confirmed while 7 were diagnosed only clinically and surgically confirmed. The patients were given a preoperative form on which they ticked the intensity of the pain they felt (mild, medium, severe) as well as the period of the menstrual cycle in which they felt pain (premenstrual, menstrual, periovulatory, or throughout the entire menstrual cycle). Small individual variations were analysed and integrated correctly. The study analysed the period and intensity of pain in relation to the stage and location of endometriosis foci.

Results: Pain intensity and duration varied directly proportional to the size of endometriotic cysts and their number. Involvement of the presacral nerve, in locations at the Douglas sac fundus, significantly aggravated the symptoms.

Conclusion: These findings underscore the importance of careful assessment of the stage and location of endometriosis for effective management of the pain and symptoms associated with this debilitating condition.

Keywords: endometriotic cysts, presacral nerve.