VIDEO COMMENTARY

DOI: 10.52054/FVVO.2026.361
Facts Views Vis Obgyn 2026;18(2):153-154

Immediate volume reduction following transvaginal ultrasound-guided thermal ablation (interstitial myolysis) of a symptomatic uterine fibroid

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ABSTRACT

Background: Interstitial thermal ablation represents a uterine-sparing alternative for symptomatic fibroid management. Transvaginal ultrasound-guided myolysis enables precise targeting and real-time monitoring of the ablation zone.

Objectives: To illustrate the feasibility and immediate intraoperative response of transvaginal ultrasound-guided interstitial myolysis for the treatment of uterine fibroids.

Participant: A 36-year-old multiparous woman with persistent abnormal uterine bleeding and pelvic pain related to a known uterine fibroid seeking a uterus-preserving treatment. Previous treatments, including levonorgestrel-releasing intrauterine system and oral therapy with relugolix, estradiol, and norethisterone had failed.

Intervention: Transvaginal ultrasound revealed a retroverted, enlarged uterus with a posterior type 2-5 fibroid measuring 45×37×49 mm (volume: 42.4 cm³). Under conscious sedation, a 16G-27 cm microwave antenna was transvaginally inserted and repositioned within the fibroid under continuous ultrasound guidance. Ablation was delivered in four cycles at 20 W for a total duration of 194 seconds, with a cumulative net energy delivered of 3.3 kJ calculated by the device, while continuously assessing safety margins and tissue response. Immediate ultrasound evaluation showed a 42.7% volume reduction (from 42.4 to 24.3 cm³), loss of fibroid definition, and partial collapse, consistent with effective devascularisation. No complications occurred, and the patient was discharged the same day. At 4-month follow-up, fibroid volume reduction was sustained (41.7%), with complete symptom control under the previously ineffective hormonal therapy.

Conclusions: Transvaginal interstitial myolysis offers a minimally invasive, uterine-sparing treatment option for selected patients with symptomatic fibroids. Real-time ultrasound monitoring enables precise ablation and immediate confirmation of treatment efficacy.

What is New? This video documents the immediate volumetric response of a uterine fibroid following transvaginal ultrasound-guided myolysis.

Keywords: Microwave, relugolix, ultrasound-guided, uterine fibroids

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Received: 02.02.2026 **Accepted:** 12.05.2026 **Publication Date:** 22.06.2026

Cite this article as: La Marca A, Battipaglia C, Del Villano N, Verra S, Longo M. Immediate volume reduction following transvaginal ultrasound-guided thermal ablation (interstitial myolysis) of a symptomatic uterine fibroid. Facts Views Vis Obgyn. 2026;18(2):153-154

Acknowledgments: The authors thank the clinical staff involved in the patient's care for their support during the procedure and video recording.

Contributors: Surgical and Medical Practices: A.L.M., Concept: A.L.M., Design: N.D.V., S.V., Data Collection or Processing: N.D.V., S.V., Analysis or Interpretation: A.L.M., C.B., M.L., Literature Search: C.B., M.L., Writing: C.B., M.L.

Funding: The authors received no financial support for the research, authorship, and/or publication of this article.

Competing interests: No conflict of interest was declared by the authors.

Ethical approval: In accordance with the policies of the Azienda Ospedaliero-Universitaria Policlinico di Modena, this type of case report does not meet the criteria for human subjects' research and therefore does not require formal IRB approval.

Informed consent: The patient included in this video gave written informed consent for the publication and online distribution of the video and related materials.

Data sharing: All relevant data are included in the article and the accompanying video. No additional data are available.

Transparency: The authors affirm that this manuscript is an honest, accurate, and transparent account of the case reported, and that no important aspects of the case have been omitted.

Video 1. Immediate volume reduction following transvaginal ultrasound-guided thermal ablation (interstitial myolysis) of a symptomatic uterine fibroid: https://www.youtube.com/watch?v=kRw_VhSMw7w