

Stepwise approach of hysteroscopic cytoreductive surgery for adenomyosis in patients with recurrent implantation failure

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Objective: To study the value of hysteroscopic cytoreductive surgery for adenomyotic lesions to improve reproductive outcomes. We describe a feasible and novel minimal invasive stepwise approach, which did not result in postoperative adhesion formation and restored favorable reproductive outcomes.

Design: Video article.

Setting: Tertiary centre, specialised in fertility.

Patient(s): Patients aged <37 years, diagnosed with adenomyotic lesions by ultrasound and/or magnetic resonance imaging, who after a minimum of 6 months of medical treatment (gonadotrophin releasing hormone agonist or dienogest) failed to conceive with a minimum of two embryo transfer cycles of high-quality blastocysts were included.

Intervention(s): The procedure was performed under conscious sedation, level 3b in an ambulatory surgical center. All patients received hormonal suppressive treatment (Dienogest 2 mgr per day or Triptoreline 3.75 mgr. IM once a month). Institutional Review Board approval and patient consent had been received for the study. The surgical steps included the following:

- Identification of the inner myometrial lesion by combined ultrasonographic-hysteroscopic examination.
- Incision of the lesion at the midline with a 15-Fr bipolar mini-resectoscope until the pathological adenomyotic tissue was totally removed. In contrast to ultrasound and magnetic resonance imaging, hysteroscopy can visualize a clear tissue structure difference between the adenomyotic fibrotic lesion and the surrounding healthy myometrium. Intermittent transvaginal ultrasound is mandatory to control the myometrial security zone, which should not be <1 cm.
- Removal of the side wall pathological tissue, using the same hysteroscopic visual references, aiming to avoid thermal injury to the surrounding healthy myometrial layer.
- Application of hyaluronic acid antiadhesive barrier gel under hysteroscopic vision.
- Second-look hysteroscopy was scheduled after 8 weeks.

Main Outcome Measure(s): Feasibility, reproductive outcomes, and complications (adhesions and placental disorders).

Result(s): Fifteen patients underwent surgery and had histological confirmation of adenomyosis. Second-look hysteroscopy was possible in 13 of 15 women (2 spontaneous pregnancies) with reassuring postoperative results, showing only mild lateral wall adhesions

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Attestation statement: Data regarding any of the subjects in the study has not been previously published.

Data sharing statement: Data will be made available to the editors of the journal for review or query on request.

The patient(s) included in this video gave consent for publication of the video and posting of the video online including social media, the journal website, scientific literature websites (such as PubMed, ScienceDirect, Scopus, etc.) and other applicable sites. Institutional Review Board approval was received (CE2024/111).

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in three cases. Pregnancy was registered in 12 women: one early miscarriage; seven ongoing pregnancies; and four deliveries of healthy infants with normal birth weight and no placenta-related complications.

Conclusion: (s): In contrast to the current beliefs, mini hysteroscopy can identify and selectively resect adenomyotic lesions. The described technique in this video in our series of patients resulted in optimal postoperative healing and excellent reproductive outcomes. (Fertil Steril® 2024; ■:■-■. ©2024 by American Society for Reproductive Medicine.)

Key Words: Hysteroscopy, failed implantation, adenomyomectomy, ultrasound, reproductive outcomes



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CRediT Authorship Contribution Statement

Rudi Campo: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Methodology, Investigation, Conceptualization. **Evy Gillet:** Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Data curation. **Stephan Gordts:** Supervision, Investigation, Conceptualization. **Marion Valkenburg:** Investigation. **Helena Van Kerrebroeck:** Investigation. **Alessa Sugihara:** Investigation. **Istvan Argay:** Writing – review & editing, Writing – original draft. **Panayiotis Tanos:** Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Data curation.

Declaration of Interests

R.C. is a consultant for Karl Storz GmbH, BioRegen Biomedical (Changzhou Co., Ltd.), and European Society of Gynecological Endoscopy Board of Directors. E.G. has nothing to disclose. S.G. is a consultant for Karl Storz GmbH and member of the European Society of Gynecological Endoscopy Congress Committee. M.V. has nothing to disclose. H.V.K. has nothing to disclose. A.S. has nothing to disclose. I.A. has nothing to disclose. P.T. has nothing to disclose.

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