Complete Uterine Septum: Surgical Resection Challenges in a Patient with Infertility

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Background

A complete uterine septum is a rare Müllerian anomaly resulting from post-fusion recanalization failure of the Müllerian ducts. A uterine septum increases the risk of recurrent pregnancy loss, preterm birth, and subfertility (1). Hysteroscopic resection of a complete uterine septum can improve reproductive outcomes. However, resection of a complete uterine septum can pose technical difficulties and often requires staged procedures (2). We present surgical challenges and optimization techniques in a patient with infertility undergoing complete uterine septum resection in the setting of cervical laxity, which is commonly associated with a complete septum.

Objective

To present a case of stepwise surgical resection of a complete uterine septum to optimize reproductive outcomes in a patient with infertility.

Methods

The patient is a 32-year-old G1P0010 female with a six-year history of infertility and a prior spontaneous abortion at 14 weeks. Evaluation revealed a complete uterine septum on saline infusion sonogram. Pelvic magnetic resonance imaging (MRI) further confirmed a complete septum extending to the internal cervical os and normal bilateral kidneys. The patient underwent a challenging first hysteroscopic resection with a simple hysteroscope due to cervical laxity, which ultimately required the use of a tissue removal device and direct laparoscopy in a second-stage resection of the residual septum.

Results

The first hysteroscopic uterine septum resection was performed using a 6.5 mm operative hysteroscope and saline solution for distension. The first 2 cm of the septum resection incision was limited by poor visualization secondary to cervical laxity, which led to loss of distension media. Despite application of a tenaculum and ring forceps around the hysteroscope, loss of distension media continued, resulting in discontinuation of the procedure.

Two months later, a second hysteroscopic procedure to incise the residual septum was performed. To maintain optimal visualization and a cervical fluid seal during the procedure, a tissue removal device with a fluid management system was used. Interestingly, several sub-centimeter polyps in the lower uterine segment and cervix were found and subsequently resected with the device. Further septum resection was performed using laparoscopic monitoring with concurrent hysteroscopic illumination to enhance surgical precision and prevent uterine perforation. After successful incision of the residual septum, laparoscopic evaluation was

consistent with minimal peritoneal endometriosis. Chromopertubation with methylene blue demonstrated bilateral tubal patency.

To prevent uterine adhesions in the postoperative period, an intrauterine balloon catheter was placed for five days along with doxycycline coverage. Additionally, to enhance endometrial epithelialization, 0.1 mg estradiol transdermal patch was applied twice weekly for three weeks, followed by medroxyprogesterone 10 mg daily to induce withdrawal bleeding. Three months later, a saline sonogram confirmed complete resection of the uterine septum, and the patient was advised to attempt conception.

Conclusion

A complete uterine septum can cause recurrent pregnancy loss and preterm labor. Thus, surgical resection is important to optimize reproductive outcomes. Our case highlights a successful, staged surgical resection of a complete uterine septum when challenges of cervical laxity limited hysteroscopic resection. This underscores the value of surgical optimization through adjunctive technologies such as hysteroscopic illumination with concurrent laparoscopy, use of a tissue removal device, and attentive postoperative management in a patient with a complete uterine septum. Early recognition of technical barriers and strategic use of surgical techniques can improve the safety and success of complete uterine septum resection.

References

1. Noventa M, Spagnol G, Marchetti M, Saccardi C, Bonaldo G, Laganà AS, et al. Uterine Septum with or without Hysteroscopic Metroplasty: Impact on Fertility and Obstetrical Outcomes-A Systematic Review and Meta-Analysis of Observational Research. J Clin Med. 2022 Jun 8;11(12):3290.

2. Zizolfi B, Spiezio Sardo AD, Gallo A, Virgilio A, Fabbri M, Manzi A, et al. Surgical and reproductive outcomes of hysteroscopic metroplasty for complete septate uterus with or without associated cervical anomalies and/or vaginal septa. Eur J Obstet Gynecol Reprod Biol. 2025 Aug;312:114090.