ASYMPTOMATIC TRANSVERSE VAGINAL SEPTUM PRESENTING WITH PRIMARY INFERTILITY: A RARE AND CHALLENGING CASE

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Abstract

Transverse vaginal septum (TVS) is a rare congenital anomaly, with an estimated incidence of approximately 1 in 70,000 females. It is typically diagnosed during adolescence due to symptoms such as primary amenorrhea. However, asymptomatic cases presenting with primary infertility are exceedingly rare.

This report describes a 34-year-old woman diagnosed with a microperforated TVS who presented with primary infertility. Despite having regular menstruation and no clinical symptoms other than infertility, examination revealed a blind-ending vagina. Fistulography indicated the presence of a vaginal septum. Surgical resection was performed to restore normal vaginal continuity and anatomy. The patient recovered fully, resumed sexual activity, and conceived spontaneously within two months, leading to a normal pregnancy.

This case underscores the importance of considering TVS in the differential diagnosis of unexplained infertility. Early diagnosis and appropriate surgical management can optimize reproductive outcomes and prevent complications associated with this rare anomaly.

Keywords: Transverse vaginal septum, Müllerian duct anomaly, unexplained infertility, fistulography

Introduction

Transverse vaginal septum (TVS) is a rare congenital anomaly of the female genital tract, resulting from incomplete fusion of the Müllerian ducts during embryogenesis. Its estimated incidence is approximately 1 in 70,000 females, making it one of the rarest anomalies of the female reproductive system (1).

TVS is typically diagnosed in adolescence due to primary amenorrhea. However, women with microperforated septa may remain asymptomatic until presenting with infertility (2). We report a case of a woman with a microperforated TVS who presented with primary infertility, highlighting the diagnostic challenges and management strategies associated with this condition.

Case Presentation

A 34-year-old nulliparous woman presented to our outpatient clinic with a three-year history of primary infertility. Her medical history was unremarkable, and she reported regular menses since menarche at age 12. She denied dysmenorrhea, pelvic pain, dyspareunia, or any difficulties with sexual intercourse.

Physical examination revealed normal secondary sexual characteristics and external genitalia. Speculum and digital examination identified a blind-ending vagina without a visible cervical ostium, except for a possible microperforation on the left lateral vaginal wall (Figure 1A).

Transvaginal ultrasonography revealed normal uterine and adnexal anatomy, without evidence of hematocolpos or hematometra. A microperforated TVS was suspected. To confirm the diagnosis, hysterosalpingography and fistulography were performed using fluoroscopy and a water-soluble contrast medium injected through the perforation site. Fistulography confirmed a transverse vaginal septum located in the mid-vaginal region (Figure 2).

The patient underwent surgical resection of the septum. Circular excision of the septum was performed, followed by anastomosis of the proximal and distal vaginal mucosa. The cervical ostium was visualized after resection, and the remaining vaginal tissue was sutured with a continuous locked absorbable suture (Figure 1B).

A diagnostic laparoscopy was performed concurrently to investigate infertility and to prevent iatrogenic injury. The laparoscopy revealed normal pelvic anatomy, and a methylene blue dye test confirmed bilateral tubal patency.

Postoperatively, the patient received prophylactic antibiotics and vaginal estrogen for four weeks to prevent vaginal or cervical stenosis. Follow-up examinations revealed no postoperative complications. The patient resumed sexual intercourse eight weeks after surgery and conceived spontaneously two months later. At the time of writing, she was 21 weeks pregnant with an uneventful pregnancy course.

Discussion

This case highlights the need to consider TVS as a possible cause of primary infertility, even in the absence of classical symptoms such as amenorrhea or dysmenorrhea. In microperforated cases, menstrual flow may occur through the perforation, masking the presence of an obstructive anomaly.

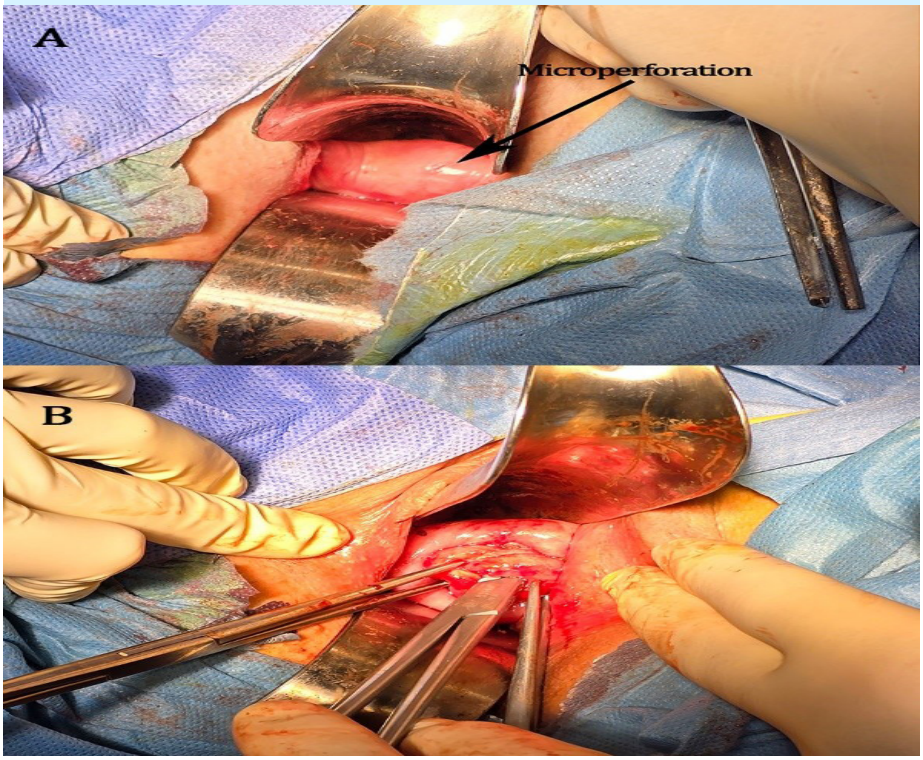

Figure 1A. Blind-ending vagina with microperforation.Figure 1B. Visualization of the cervical ostium following surgical anastomosis.

According to the 2013 European Society of Human Reproduction and Embryology/ European Society for Gynecological Endoscopy (ESHRE/ESGE) classification, transverse vaginal septum is categorized as subgroup V3 among Müllerian duct anomalies (3). Our patient's condition was classified as U0C0V3, indicating normal uterine and cervical anatomy.

Magnetic resonance imaging (MRI) is a valuable diagnostic tool for Müllerian anomalies due to its multiplanar imaging capability and superior soft-tissue contrast resolution. MRI allows accurate differentiation of uterine and vaginal anomalies and concurrent detection of endometriosis (4,5). However, when resources are limited, conventional ultrasound and fistulography can be effective diagnostic alternatives. In this case, fistulography with water-soluble contrast provided sufficient diagnostic information at lower cost.

The treatment objective in TVS management is complete resection of the septum to restore normal vaginal continuity, prevent restenosis, and maintain functional vaginal length and caliber (6). Minimally invasive vaginoscopic techniques using hysteroscopic guidance have also been introduced as alternatives (2).

Early diagnosis and surgical correction are essential to preserving fertility. The laparoscopic-assisted transvaginal approach, as employed in this case, enables precise excision and minimizes surgical complications, ensuring favorable reproductive outcomes.

Conclusion

This case emphasizes the importance of maintaining a high index of suspicion for TVS in women with unexplained primary infertility. Early identification and surgical intervention can restore normal vaginal anatomy, improve fertility potential, and enhance quality of life.

Data Availability

Data supporting the findings of this study are available from the corresponding or first author upon reasonable request

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Consent Statement

Written informed consent was obtained from the patient for publication of this case report in accordance with the journal's patient consent policy.

Conflict of Interest

The authors declare no conflicts of interest

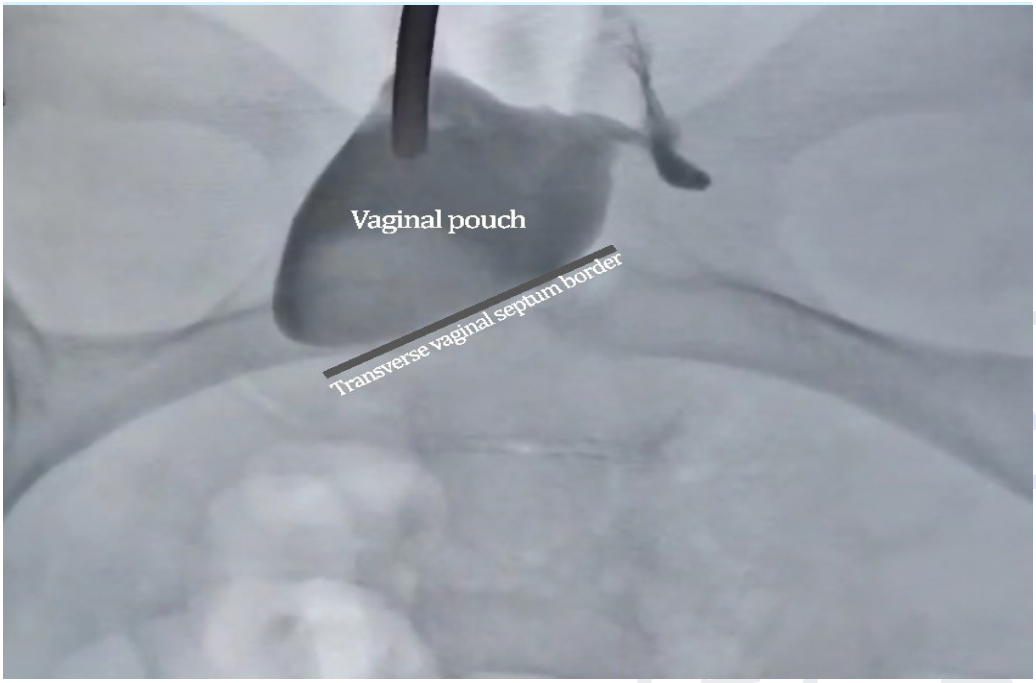

Figure 2. Fistulography image demonstrating the transverse vaginal septum.

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