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Symptomatic partial longitudinal vaginal septum removal

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Abstract

Introduction: A longitudinal vaginal septum is a rare Müllerian duct anomaly that divides the vaginal canal. Though often asymptomatic, some patients experience dyspareunia, dysmenorrhea, or post-coital bleeding. This case explores the diagnosis and surgical management of a partial longitudinal vaginal septum.

Case Presentation: A 54-year-old nulliparous female presented with post-coital bleeding and dyspareunia. A partial longitudinal vaginal septum with a blind pouch was detected during a gynecological examination. The patient underwent successful surgical excision using the LigaSure device, resulting in a complete resolution of symptoms at the one-week follow-up.

Discussion: This case highlights the significance of recognizing rare anatomical anomalies, such as a partial longitudinal vaginal septum, in patients with nonspecific symptoms. Surgical excision using LigaSure offers advantages, including minimal blood loss and clean surgical margins. Alternative methods, like simple excision or GIA stapler use, pose drawbacks such as increased blood loss, tissue irritation, or infection. LigaSure, with its minimal thermal spread, is a safer option but requires caution near neighboring sensitive structures.

Conclusion: This case demonstrates the importance of considering rare vaginal anomalies in patients presenting with gynecological complaints. Successful surgical treatment led to the resolution of symptoms, supporting the need for further research into optimal diagnostic and therapeutic strategies for such rare conditions.

Keywords: Vaginal septum, LigaSure, longitudinal, Müllerian duct

Introduction

A longitudinal vaginal septum is a rare vaginal malformation that divides the vaginal canal into two separate anatomical cavities ^[1]. This condition arises due to the failure of fusion of the lower Müllerian ducts, which form the vagina. A merged longitudinal septum presents as a fibrous, epithelial-covered extension from the cervix and may be seen during a speculum exam or palpated on a one- or two-finger exam ^[2]. However, imaging with ultrasound or MRI should be performed to better visualize the structures and classify the vaginal septum. A longitudinal vaginal septum is classified based on four criteria: (1) type-partial or complete, (2) position-symmetric or asymmetric, (3) association with the cervix-merged or isolated, and (4) concomitant vaginal openings-stenotic, hymen-persistent, or normal ^[1]. These classifications are important for determining the type of surgical intervention required.

In the general population, Müllerian duct anomalies have an incidence rate of 1%, making this specific case even more rare ^[3]. Further anomalies may develop in conjunction with this, such as a septate uterus or didelphys uterus ^[2]. More uncommon are partial longitudinal vaginal septa, as seen in a study spanning 19 years at a university hospital, where only 36 patients were diagnosed with this pathology ^[4].

Although patients are typically asymptomatic, about 50% of those affected experience quality-of-life issues. Patients report a wide range of complaints, including dyspareunia, dysmenorrhea, primary amenorrhea, and/or infertility. Pregnancy loss is a particularly significant complaint, with approximately 25% of patients with Müllerian duct anomalies experiencing miscarriages within the first two trimesters ^[2]. While miscarriage is common, the rate of primary infertility is no higher than in patients with normal reproductive tracts. Overall, the treatments for a longitudinal vaginal septum are aimed at improving the patient's quality of life, as the septum is not typically harmful.

Case Presentation

A 54-year-old nulliparous female presented to the outpatient clinic with post-coital bleeding and dyspareunia. Upon vaginal examination, a partial vaginal septum was visualized with an accompanied blind pouch. The patient's gynecological history is unremarkable, as they never had an abnormal pap test. The urinalysis was negative. The patient denied vaginal dryness but experienced bleeding with intercourse. A gynecological examination revealed mild vaginal atrophy and a partial longitudinal vaginal septum (Figure 1). The uterus was retroverted and retroflexed.



Fig 1: Partial Longitudinal Vaginal Septum held by forceps, measuring about 3 cm in length

Two weeks later, the patient was taken to the operating room for excision of the vaginal septum. The procedure was as follows: After adequate LMA general anesthesia, the patient was placed in the dorsal lithotomy position, prepped, and draped in the usual fashion. A time-out was performed. A catheter was inserted into the bladder, and approximately 100 mL of clear yellow urine was drained. An examination under anesthesia was performed with findings consistent with the previous examination. Vaginal retractors were used to retract the vagina laterally until the full length of the septum could be delineated. The LigaSure device was then used to transect the anterior extent of the septum along its entire length. Each pedicle was grasped with the LigaSure, cauterized, and cut until the entire anterior portion of the septum was free. The posterior attachment of the vaginal septum over the rectum was then addressed. The septum was placed on tension, and the LigaSure was applied to the base of the attachment. Each pedicle was grasped, cauterized, and cut until the entire septum, measuring 3 cm in length, was removed (Figure 2). The excision lines were hemostatic both anteriorly and posteriorly, with a small area requiring silver nitrate application to achieve hemostasis. KY jelly was applied to the areas of excision, and all instruments were removed from the vagina. All sponge and instrument counts were correct. No needles were used. The patient was taken out of the dorsal lithotomy position and transferred to the recovery room in satisfactory condition. At a one-week follow-up, the patient reported complete resolution of symptoms.



Fig 2: Cauterized portion of the cervix at the location of septum removal

Discussion

The significance of this case lies in the rarity of a partial longitudinal vaginal septum and the evaluation of its surgical treatment. The estimated prevalence of a partial longitudinal septum is less than 0.1%. Therefore, it is crucial to investigate anatomical anomalies in patients presenting with symptoms of discomfort, infertility, or menstrual irregularities.

Given the scarcity of this pathology, treatment options are of particular importance for future gynecologic surgeons, along with other possible treatments. Other surgical modalities for vaginal septa, such as simple excision followed by suturing the margins to prevent blood loss or the use of a GIA stapler to reduce blood loss, have been discussed in the literature [5]. While both are viable surgical options, they have drawbacks. Simple excision can result in significant blood loss, as the surgeon must carefully excise around blood vessels. The GIA stapler addresses the issue of blood loss by simultaneously placing staples as the cuts are made; however, these staples are typically left in the vaginal cavity, potentially causing tissue irritation or infection.

The use of bipolar electrocautery forceps, such as the LigaSure, minimizes blood loss, provides clean surgical margins, and causes minimal postoperative irritation. However, if the LigaSure is used proximal to structures like the rectum or urinary bladder, it may cause thermal spread and irritation. This thermal spread is rarely a long-term issue and typically resolves after surgery. The LigaSure is a safer electrocautery tool, with minimal thermal spread reported at less than 1 mm [6]. Studies suggest that to further reduce thermal spread, surgeons should use shorter clamp times and include pauses between clamps [6].

Surgical treatment should only be performed for symptomatic patients, who represent an even smaller subset of the already rare population with partial longitudinal vaginal septa. This case is significant in advancing medical knowledge of such conditions. Postoperative outcomes for similar cases are typically unremarkable, with complete

resolution of symptoms. Follow-up is necessary to monitor for any new symptoms or complications, or to evaluate the effects of septum removal [2].

Conclusion

The patient's post-coital bleeding and dyspareunia were caused by a merged partial longitudinal vaginal septum detected during a speculum exam. This case demonstrates how a rare vaginal anatomical anomaly can cause nonspecific symptoms and how appropriate diagnosis and treatment can alleviate these symptoms. Obstetricians and gynecologists should consider rare anatomical anomalies when treating patients with symptoms such as infertility, dyspareunia, post-coital bleeding, irregular menses, or other gynecological issues. Due to the limited data on these anomalies, further research is needed to develop optimal diagnostic and treatment strategies so that patients can live without pain.

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