

PERFORATED TRANSVERSE VAGINA SEPTUM ASSOCIATED WITH PRIMARY INFERTILITY: DIAGNOSTIC AND MANAGEMENT CHALLENGES IN A LOW-INCOME SETTING

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Contributions

Every author backed to this case report. GUE, GOU, HIO, CNI. TOC, CCO, IAE, JAO, IKN, CJE, GOE, KAO, LOC, SCN and EIO conscripted the manuscript. GUE, CNI, TOC and HIO reviewed the manuscript and executed the surgery and management of the patient. GOU, GUE, TOC and CNI oversaw the lettering of the report. Every author partook in writing the case report and ratified the last version of the report.

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Abstract

Background

Perforated transverse vagina septum [TVS] is an uncommon congenital uterovaginal glitch ensuing from letdown of the canalization of the developmental plate of the vagina existing at the junction of the Mullerian duct and urogenital sinus. It can lead to dyspareunia and its possible predisposition to infertility and marital disharmony. Diagnosis and management can be quite challenging in resource-constrained settings requiring Gynecologists to 'think outside the box'.

Case presentation

She was a 40-year-old Nigerian woman who presented with dyspareunia since sexual debut and inability to conceive, both of 7 years duration. There was also a history of dysmenorrhea. A diagnosis of perforated transverse vagina septum without added other abnormality of the urogenital was made. Septum excision and vaginoplasty was performed. Patient subsequently recovered and had improved quality of life. Subsequently, she was worked up for management of the subfertility.

Conclusion

In the case of a woman with primary infertility and dyspareunia since sexual debut, the rare differential diagnosis of perforated transverse vagina septum should be considered a possibility. Gynecologists should be more empathetic and diligent in seeking out information in women's sexual history and be knowledgeable enough to think outside the box and involve other specialists in some cases.

Key words: Dyspareunia; mullerian; perforated; transverse vagina septum; vaginoplasty.

Introduction:

Perforated transverse vagina septum (TVS) is an uncommon congenital uterovaginal glitch ensuing from letdown of the canalization of the developmental plate of the vagina existing at the junction of the Mullerian duct and urogenital sinus [1]. The commonness of TVS ranges from 1:2100 to 1:84000 [2]. Based on Modified Rock and Adam American Fertility Society (AFS) classification of congenital utero-vagina anomalies, TVS is a class II (disorders of vertical fusion) anomaly [3].

It often leads to dyspareunia and possibly infertility as well as marital disharmony. It may be asymptomatic especially when located in the superior and sometimes mid-vagina. The acquired variety usually follows local insertion of caustic materials for the treatment of fibroids and other gynecological conditions [4]. The low type is rare as it accounts for only about 14% of transverse vagina septum cases [5]. High and mid TVS accounts for 46% and 40% respectively. This is dissimilar to presentation in imperforate transverse vagina septum whereby presentation is usually earlier either at the neonatal stage when it causes significant hydrocolpos or mucocolpos or at adolescence when it presents with primary amenorrhea, cryptomenorrhea and cyclical pelvic pain due to hematometra or hematocolpos [6]. Traditionally, the touchstone for the identification of Mullerian anomalies is the magnetic resonance imaging [MRI] because of its high accuracy in elaborating features of the uterovaginal anatomy [2] and recently diagnostic hysterolaparoscopy [7]. These diagnostic modalities may not be easily available, accessible and affordable to patients in low-income settings where treatments are usually on a 'cash and carry' basis. Management of the more complicated cases also requires the services of other specialists like Plastic and Reconstructive surgeons.

Case report:

She was a 40-year-old Nigerian woman who presented at the gynecological outpatient clinic with dyspareunia since sexual debut and inability to conceive of 7 years duration. She got married 7 years prior to presentation and since then had been having very painful intercourse at penetration. Pain was so severe such that the husband stopped having penetrative sexual intercourse for the past two years. Menarche was attained when she was aged 13 years and she had a regular 28-day cycle with a 4-day flow. There was a history of dysmenorrhea.

A general physical examination revealed that she had well developed secondary sexual characteristics. The pubic hair was tanner stage IV, normal axillary hair growth but the breast was Tanner stage IV.

vagina examination showed a hypertrophic urethral meatus with a narrowed introitus which admitted only the index finger [Figure 1 and Figure 2]. There was also a blind ending vagina about 3cm in length with a pinpoint opening. Abdominopelvic ultrasound scan showed leiomyomata uteri as well as well-developed uterus and normal ovaries. A modified transvaginal ultrasound discovered typical adnexal and uterine anatomy. We could not detect hematometra and hematocolpos. Both abdominopelvic ultrasound and intravenous urogram showed grossly normal urinary tract systems. Consult was sent to the plastic surgeons for combined management. During surgery, the transverse vagina septum was excised revealing a normal-appearing cervical ostium. Reconstruction and vaginoplasty were then completed with delayed absorbable sutures. Post operatively, she was managed with intravenous antibiotics (ceftriazone and metronidazole), intravenous fluids (5% dextrose water alternated with normal saline), and analgesics (pentazocin and rectal diclofenac). Additionally, in order to prevent vagina stricture, an 'improvised' vagina mould was left in-situ for 12 days since it was changed every 72 hours for 4 times. After 48 hours all her intravenous drugs were converted to oral medications. She was also placed on hematinics. Patient had an uneventful recovery.

Following discharge, the patient was eventually evaluated weekly in the clinic until she was able to demonstrate successful vagina dilatation revealing no stricture, no vagina infections, or any gynecologic pathology. The restoration of the wound was satisfactory. However, coitus was allowed eight weeks post-surgery. She had improved quality of life and was subsequently worked up for management of the infertility.



TVS FIGURE -1



TVS FIGURE -2

Discussion:

This case is a rare presentation of a woman who had congenital embryological development of the vagina presenting late at 40 years of age. Most women who present at this stage tend to have the acquired variety following local insertion of caustic materials for the treatment of fibroids and other gynecological conditions [4] This abnormality was not detected earlier because she had a regular menstrual cycle since the septum was perforated and did not show any obstructive features. It is also bewildering how the couples did not seek early medical intervention on account of the severe dyspareunia despite the overwhelming desire for fertility.

Perforated or complete transverse vagina septum usually may be asymptomatic especially when located in the upper and sometimes mid-vagina [1]. Those with TVS in the lower vagina might complain of dyspareunia as was seen in this case that had severe pain during intercourse such that

the husband stopped all coital activities for two years. This form in itself is rare as it accounts for only about 14% of transverse vagina septum cases [5]. High and mid TVS accounts for 46% and 40% respectively. This is dissimilar to presentation in imperforate transverse vagina septum whereby presentation is usually earlier either at the neonatal stage when it causes significant hydrocolpos/mucocolpos or at adolescence when it presents with primary amenorrhea, cryptomenorrhea and cyclical pelvic pain due to hematometra or hematocolpos [6].

Traditionally, the touchstone for the identification of Mullerian glitches is the utilization of magnetic resonance imaging and laparoscopy because of its high accuracy and its ability to define the uterovaginal anatomy, but it is not available to us [2, 7]. In our facility our mainstay for diagnosis is usually clinical findings with 3-dimensional transvaginal ultrasound scanning. Women who present with obstructive features or infertility may also benefit from diagnostic hysterolaparoscopy. This was subsequently done for our patient for evaluation of her infertility. In a previous report, women with a complete transverse septum in the mid or superior vagina had less tendency to become pregnant when compared to women whose septum is in the were in the inferior vagina [8].

Subsequently the patient had septum excision with vaginoplasty and reconstruction. Fortunately, the patient did not develop stenosis as seen in similar repair cases, as recurrent stenosis has been documented in a previous report [9]. This might be due to the multidisciplinary role of the plastic and reconstructive surgery team with the gynecology team during the surgery. Procuring an appropriate vagina mould locally was challenging.. Improvisation was subsequently done using appropriate sized moulds. Overall, she had improved quality of life.

Recently, there has been a reported advancement in the management of transverse vagina septum with a laparoscopically-guided abdominoperineal approach with successful outcome [7]. Additionally, the vaginoscopic approach for the repair has also been recently reported which allows preservation of the integrity of the hymen [2].

Conclusion:

Management of Mullerian anomalies such as transverse vagina septum is challenging more so in resource-constrained settings like ours. In a woman with primary infertility and dyspareunia, the rare differential diagnosis of perforated transverse vagina septum should be considered. Gynecologists should be more empathetic and diligent in seeking out information in women's sexual history and knowledgeable enough to think outside the box in some cases. Multidisciplinary approach in repair of cases such as this might be beneficial.

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Ethics approval and consent to participate

Does not apply.

Competing interests

The authors declare that they have no competing interests.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Availability of data and materials

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Abbreviations and symbols

MRI: magnetic resonance imaging

TVS: Tranverse vagina septum

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