Case Report

Two Cases of Microperforation of the Transverse Vaginal Septum

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Abstract

Primary amenorrhoea with microperforate transverse vaginal septum is a rare entity with varied incidence in different parts of the world. It may be asymptomatic, unlike imperforate hymen. Depending on the size of the microperforation in transverse vaginal septum clinical features may vary similar to those found in imperforate hymen cases. We report two cases of a 25 and 22-year-old women who sought the gynaecologist with complains of primary infertility. They had normal menses with one of them having secondary dysmenorrhea. Physical examination and imaging disclosed microperforation of transverse vaginal septum in the upper part of the vagina at mid point position. Resection of the septum under anesthesia was done. The outcome was favourable and 25 year asymptomatic patient with primary infertility at the present moment have conceived carrying six weeks pregnancy and second patient is in follow up. We conclude that this anomaly may be overlooked, interfering on its incidence determination. The finding of transverse vaginal septum in an asymptomatic infertility patient is highly unusual. Clinicians must be aware of atypical presentations and potential multifactorial etiologies of primary infertility. Ensuring a thorough evaluation is essential in order to mitigate long-term effects of a misdiagnosis.

Keywords: Vaginal septum, Mullerian ducts, primary infertility, hematocolpos

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Introduction

Majority of the girls begin their menstruation between 9 to 16 years (average 12 years). Primary amenorrhea is defined as absence of menstruation at the age of 13 years in the absence of secondary sexual characteristics and at the age of 15 years in presence of secondary sexual characteristics. Primary amenorrhea may occur with or without other signs of puberty (1, 2). Causes may occur anywhere in the endometrial-ovarian-pituitary-hypothalamic axis. The differential diagnosis is extensive and there is great overlap between the primary and secondary causes. The cause of primary amenorrhea remains unknown in many cases (3).

In 15% of the cases only abnormality is yielded on physical examination (2,4). Evaluation of the FSH, thyroid stimulating hormone (TSH), prolactin levels and a progestin challenge would benefit in ruling out the role of the endocrine system in the pathogenesis (2). Karyotyping would facilitate to rule out the chromosomal abnormality.

In patients with a distal outlet obstruction, pelvic pain likely secondary to hematocolpos is a common complication. The vagina is formed by cells from the müllerian ducts and the urogenital sinus. Failure of müllerian duct development or failure of ductal fusion with the urogenital sinus results in uterine and vaginal anomalies.

A transverse vaginal septum is caused by incomplete fusion of the tissue that separates the vaginal plate and the caudal end of the fused müllerian ducts. Typically these fusion disorders are characterized by an atretic portion of vagina that allows them to be classified as either obstructed or unobstructed.

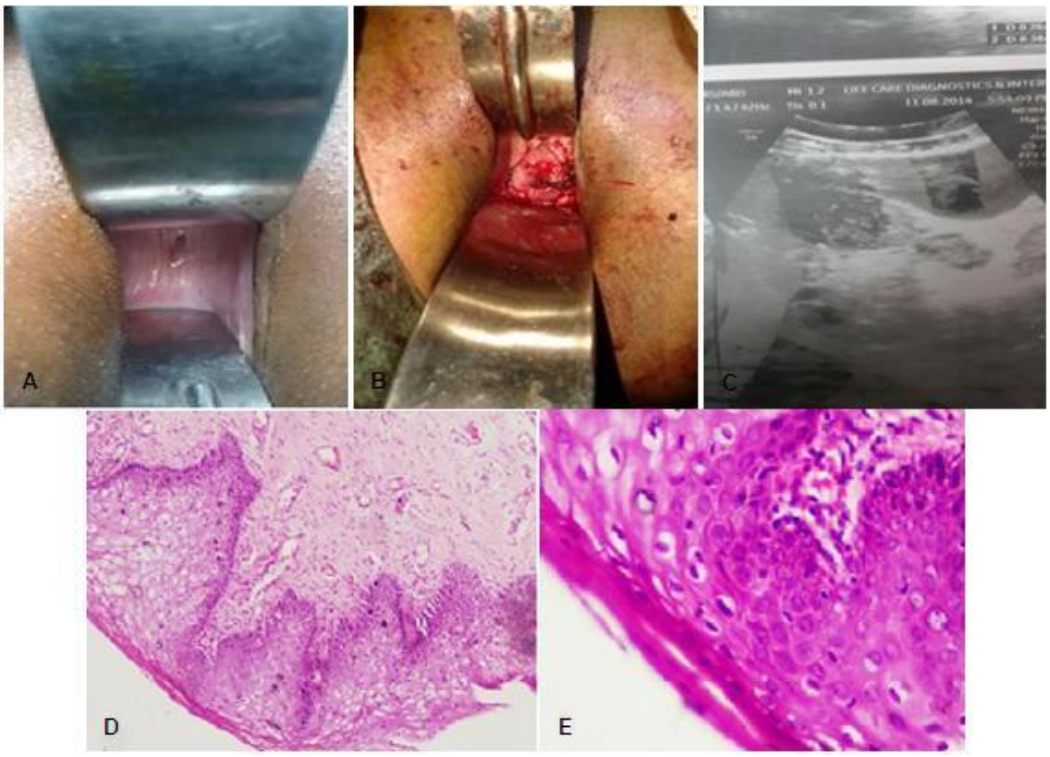

Figure 1: Case 1: A) Microperforation present around the midpoint of the transverse vaginal septum before the operation and B) after its removal showing the cervical opening with few streak of blood clot. C) Transabdominal ultrasound the transverse vaginal septum in the upper part of the vagina. D & E) TVS exhibiting the stratified squamous epithelium (H & E stained 40x and 100x).

This may be partial or complete and generally lies at the junction of the upper third and lower two thirds of the vagina. It occurs in about 1 per 75,000 females making this anomaly to be one of the rarest encountered in the female genital tract (3).

Partial transverse vaginal septa have been reported in diethylstilbestrol (DES)-exposed females. In the prepubertal state, diagnosis is generally not made unless there is the development of a mucocolpos or mucometrium behind the septum. At puberty, however, if the septum is complete, hematocolpos and hematometrium may occur in a fashion similar to that seen in the imperforate hymen, except that there is no bulging at the introitus. The patient with an incomplete transverse septum may bleed somewhat but will still develop hematocolpos and hematometrium over time and may also complain of foul smelling vaginal discharge.

Microperforated transverse vaginal septum is a rare entity with varied incidence in different part of the world. It may be asymptomatic until she does not conceive. Depending on the size of the microperforation, the clinical features may be vary similar to those found in imperforated hymen cases. We describe two cases with microperforation of the transverse vaginal septum with appropriate secondary sexual characteristics by Tanner staging where one had absent hematocolpos and pain with normal menstruation, and the other with slight hematocolpos and secondary dysmenorrhoea.

Case Report

Case 1

A 25-year-old nulligravida presented with primary infertility for 10 years. The patient had developed normally and had experienced menarche at age 13 years with regular and normal cycles. She underwent thelarche and pubarche at age 13-14, and was Tanner IV breast and pubic hair development. She denied abdominal pain, galactorrhea, headache, visual disturbances, acne, or hirsutism. There were no changes in weight, or evidence of stress. Her BMI was 23.51kg/m^2. There was no history of prior vaginal infection or surgery. No family history of congenital anomalies was elicited. The patient's mother had taken no medication during her pregnancy. The patient's menstrual cycle was regular without associated menorrhagia or dysmenorrhea.

On physical exam, vaginal introitus was normal. On evaluation, her laboratory testing showed normal FSH

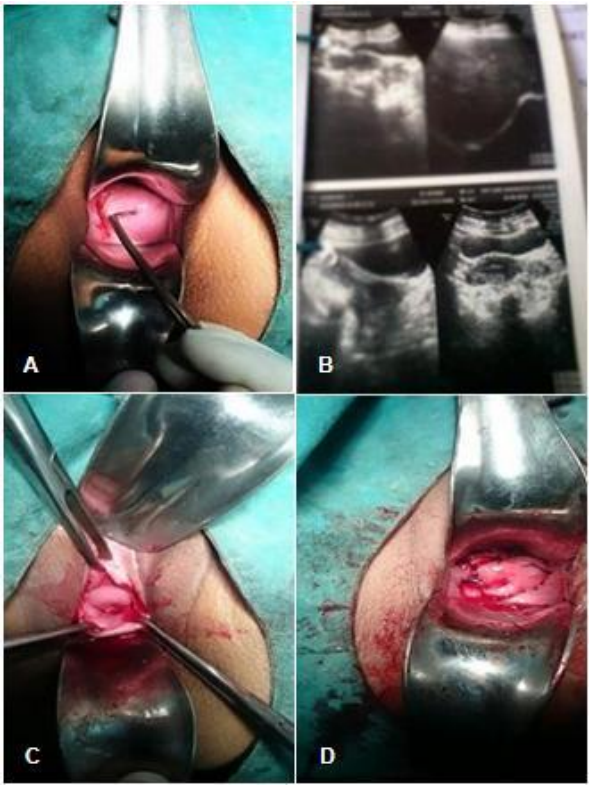

Figure 2: Case 2: A) Microperforation present around the midpoint of the transverse vaginal septum before the operation B) Transabdominal ultrasound reveals transverse vaginal septum in the upper part of the vagina with a hematocolpos. C) Resection of the TVS showing the cervical opening D) along with blood clot.

6.7mIU/ml and LH 2.7mIU/ml. Prolactin, thyroid function studies, and serum androgens were also within normal limits. The urethral opening was normally positioned anterior to the vaginal opening. Speculum examination revealed a blind vaginal pouch with a transverse vaginal septum at the junction of the upper one third and lower two third. It had a 2mm aperture diameter. Cervix could not be palpated. Bimanual and rectovaginal examination confirmed the presence of anteverted normal size mobile uterus with no adnexal masses. No other abnormality was observed. The initial clinical impression was maldeveloped cervix with shortened vagina. Final diagnosis was revealed by transvaginal sonography which showed uterus of normal size, shape and echotexture with ill defined hypoechoic septum like structure just caudal to cervix, maximum thickness 2.6mm (Fig. 1). Bilateral ovaries were normal in volume and echogenecity. Bilateral kidneys were normal in echotexture and position. Patient was too poor to undergo MRI investigation. The management involved the removal of the septum because of its possible contribution to infertility. The septum was resected under spinal anaesthesia with cruciate incision. Following the septal resection cervix was visualized and uterus palpated. Edges of the septum were imbricated to avoid vaginal stenosis. Vaginal packing was done. The packing was removed after 24 hours. Mild vaginal bleeding was observed. Patient was kept on observation until the 4th post-operative day.

Case 2

A 22-year-old nulligravida presented with primary infertility and severe dysmenorrhea for one year. Her secondary sexual characteristics were developed normally. Menarche was at age 14 with regular menses occurring every 28 to 30 days and lasting five days. At the age of 20, she began experiencing regular menses but with severe dysmenorrhea. Ultrasound imaging revealed a normal size uterus measuring (7.3 × 4.8 × 3.6) cm, normal endometrial echotexture with ill defined hypoechoic band like structure seen in the upper vaginal canal of thickness 2.4mm. Right ovary was normal in volume and echogenicity, left ovary was bulky with complex cystic lesion measuring 2.0 x 1.9 cm (Fig. 1). The urinary system was normal. Physical examination revealed a 4cm vaginal depth with thickened fibrotic tissue at the apex and no visualization of the cervix (Fig. 2).

The patient underwent surgical evaluation and treatment. Examination under anesthesia revealed a septum approximately 5mm thick, creating an approximately 4cm blind vaginal pouch. The septum appeared to have a micro perforate surface of 15mm (Fig. 2). A cruciate incision was made in the vaginal septum, and 10ml of dark blood was evacuated, the septal tissue was excised with cautery, and the edges were sutured (Fig. 2). Vaginal packing was done and the patient was discharged on the 4th postoperative day. The histopathology revealed squamous cell lining of the transverse septum (Fig. 1D and F).

Discussion

Uterovaginal anomalies present itself in various forms and combinations (5). Transverse vaginal septum is due to a developmental defect in vaginal embryogenesis of unknown etiology, which leads to incomplete vertical fusion between the down-growing müllerian ducts (müllerian tubercle) and the up-growing derivatives of the urogenital sinus, with failure of canalization of the vaginal plate. We describe two cases one very rare case of primary infertility without hematocolpos or pain and another case with typical cyclical pain and hematocolpos. These cases highlight the importance of careful

evaluation of all girls presenting with transverse vaginal septum because this abnormality is potentially accompanied by other female reproductive tract anomalies, which may be suggestive of a multifactorial genetic etiology.

Furthermore, those patients with upper or middle complete transverse septum have less probability to conceive than those with a lower vaginal septum. Beside endometriosis, high spontaneous abortion rate have been reported as the long-term complaints in obstructing transverse and longitudinal vaginal septum cases (6).

Uterine anomalies with longitudinal vaginal septum are associated with many obstetric complications such as recurrent pregnancy loss, prematurity, abnormal fetal presentation, and preterm labor (7). Additionally Ventolini et al. reported a case of obstruction of labour caused by a lower transverse vaginal septum (8).

Rock and associates have reported that women with imperforate hymen were more likely to have a term pregnancy than those with complete transverse septum that was the surgically repaired. The live birth rate has being reported to be 82% in patients with longitudinal septum and 94% in patients with transverse septum (7).

It is of utmost importance that a correct diagnosis is made as soon as possible so that the right management can be chosen with the perspective of future fertility, as seen in these cases where they conceived two months after the surgical procedure.

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