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Case Report

Perforated transverse vaginal septum: a rare case report

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ABSTRACT

20 year old nulliparous woman married since 1 ½ years attended the gynaecology OPD with history of inability to conceive. She had regular menstrual cycles with normal menstrual flow. Local examination revealed blind vagina with a small opening in the centre. On per rectal examination, uterus was felt and normal in size. Based on history and clinical examination finding, a provisional diagnosis of perforated transverse vaginal septum was made. MRI revealed transverse vaginal septum in the lower 1/3rd of vagina with a small fenestration without haematocolpos or haematometra. Transverse vaginal septum resection was done. Vagina healed well without stricture formation. Transverse vaginal septum in the lower 1/3rd of vagina (perforating type) is a rare entity and hence it is presented.

Keywords: Perforated transverse vaginal septum, Mullerian anomaly, Septum resection

INTRODUCTION

Female genital tract development is a complex process that is dependent on cellular differentiation, migration, fusion and canalization[1] during their development (embryogenesis); they are closely associated with urinary system and hindgut. Caudal segment of Mullerian ducts fuse to form the uterus and vagina. Urogenital sinus joins with fused mullerian ducts forming vaginal plate. Failure of vertical fusion of Mullerian ducts with urogenital sinus or incomplete fusion can cause uterine anomalies, vaginal anomalies and transverse vaginal septum. This transverse vaginal septum is a membrane of fibrous connective tissue with vascular and muscular components.[2]

According to American Fertility Society, transverse vaginal septum belongs to class II of Mullerian duct anomalies according to modified Rock and Adam classification.[3] It occurs in approximately 1 in 30,000 to 1 in 84,000 women.[4] The septum may be present in lower, middle and upper thirds in 19%, 35% and 46% of patient's respectively[5], majorities occurs at the junction of the middle and upper thirds of the vagina. Anomalies are subcategorized into obstructive (complete) and non-obstructive forms (incomplete) and their management varies accordingly. In complete septum, it requires immediate attention because of retrograde flow of trapped mucus and menstrual blood and increasing pressure on surrounding organs. The incomplete fusion defect varies in thickness (generally <1cm) that can be located at any level in the vagina and having a small central or eccentric perforation.[6] As clinical presentation and investigation depends on whether it is complete or partial we report here a case of the distal perforated transverse vaginal septum with history of dyspareunia and infertility regular menstrual cycle, normal menstrual flow and no relevant symptoms like dysmenorrhea, cyclical abdominal pain and no mass palpable per abdomen.

CASE REPORT

20 year old nulliparous woman married since 1 ½ attended the gynaecology OPD with history of inability to

conceive. No history of abdominal pain and menstrual irregularity but history of dyspareunia was present. She attained menarche at the age of 13 years. She gave a history of regular menstrual cycle 3-4/30 days, changing 2-3 pads per day, no history of clots or dysmenorrhoea.

On examination secondary sexual characteristics was well developed. Abdomen was soft, no mass palpable per abdomen. Local examination showed normal labia majora and minora. There was a blind vagina with a pin hole opening in the centre (Figure 1). On per rectal examination, uterus was felt and found to be normal in size. Based on history and clinical examination finding, a provisional diagnosis of transverse vaginal septum was made. Trans abdominal ultrasound showed normal uterus, cervix and ovaries. MRI showed a thin low signal intensity structure in T2W image, measuring a thickness of 7.5 mm which is 2.1 cm from the introitus with a small fenestration. Proximal and midportion of the vagina appeared normal.

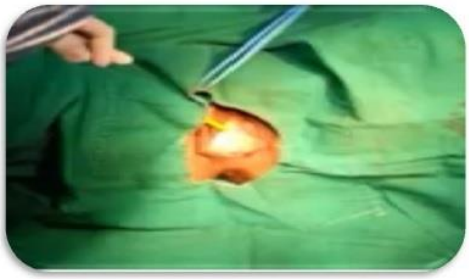

Figure 1: Transverse vaginal septum.

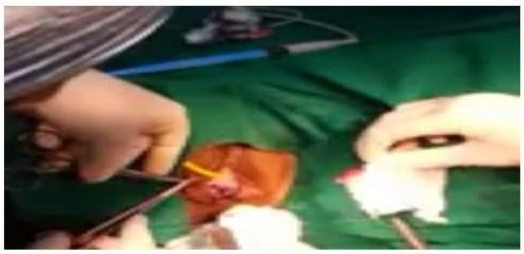

Figure 2: Resection of vaginal septum.

Figure 3: At the end of the surgery.

Patient was posted electively for vaginal septum resection. Procedure was done under General anaesthesia. Two oblique crossed incisions were made through the vault of the short vagina and four triangular vaginal mucosal flaps (outer part of septum) are separated by dissection. In inner part of septum, four more triangular flaps were raised at 45 º angle against outer flaps (Figure 2). Excess septum was excised. Inner and outer flaps transposed and sutured in zigzag manner. Interrupted delayed-absorbable sutures are used. Adequate opening was made (Figure 3) at the end of the procedure such that vagina admitted 2 fingers freely. Cervix could be felt easily. A rigid plastic 20 ml syringe was used as a vaginal mould and was removed after 3 days. She was discharged on 7th POD. The patient was reviewed after 2 weeks. Vagina healed well without stricture formation. The patient was advised to use mould made of dental material till 8 weeks. Sexual intercourse was advised after eight weeks of surgery.

DISCUSSION

The incidence of Mullerian anomaly is estimated to be between 0.1% and 3% and the incidence of transverse vaginal septum is found to be 1 in 70,000 females, 7 making this anomaly to be one of the rarest entities in the female genital tract. Vaginal septum anomalies may be either longitudinal or transverse fusion and canalization disorders. Transverse vaginal septums are rare and often unnoticed congenital abnormality typically not diagnosed until adolescence. They are usually the result of a failed absorption of the tissue found in between the vaginal plate and the distal end of the fused Mullerian ducts. Transverse vaginal septum may be found at any vaginal level (lower, middle or upper part) although the majority of such septa occurs at the junction of the middle and upper thirds of the vagina.[6] This anomaly may result from genetic mutation, developmental arrest, abnormal hormonal exposure (diethylstilboestrol) which exert their effects on critical stage of embryonic growth.

Majority of septum have small hole called fenestration in the septum; menstrual flow takes longer time than normal (4-7 days) to come out of vagina. In complete septum, absence of this fenestration results in pooling of blood above the septum[8] and they present with primary amenorrhoea, crypto menorrhoea, cyclical pelvic pain, dysmenorrhoea around the age of menarche. Incomplete transverse vaginal septum may cause dyspareunia or obstructed labour.

An incomplete septum which is asymptomatic, does not require correction during childhood or adolescence until

patient presents with infertility or dyspareunia since secretions and menstrual blood flow from vagina through the small opening.[8]

Magnetic resonance imaging (MRI) has turned out to be a significant part of the assessment of suspected vaginal anomalies.[9] Burgis has mentioned that, MRI was the gold standard in diagnosis; however, clinical examination and ultrasonography should be a sufficient diagnostic procedure.[10] Our patient presented here with no complaints other than dyspareunia and was diagnosed as perforated transverse vaginal septum clinically and with MRI. She was treated surgically by septal resection. However risk of post-operative complications like stenosis or scarring of vagina can cause hour glass effect of the healing process. So, patient was advised to use mould made of dental material till 8 weeks and sexual intercourse was advised after eight weeks of surgery.

Perforated transverse vaginal septum is a rare entity. Only clinical examination and MRI could reveal transverse vaginal septum. Therefore an early diagnosis and prompt treatment of a vaginal obstruction could help in diagnosing a hidden abnormality, treating it could prevent further complications like childbearing, antenatal complications and would benefit the patient.

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