International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Microperforated Transverse Vaginal Septum Presenting with Cyclical Dysmenorrhea and Infertility - A Rare Encounter

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Abstract: ***Background: Transverse vaginal septum is a rare type of mullerian anomaly resulting from failure of the canalization of the vaginal plate at the point where the urogenital sinus meets the mullerian duct1. The presentation will depend on the location and thickness of the septum and presence of any perforation. Case: A 27yrs old married lady presented with regular but prolonged periods with dysmenorrhoea and primary infertility. On examination under anaesthesia two openings were found in the septum that was in the middle third of the vagina, <1 cm thick. The openings were dilated and the thin intervening band, was incised connecting the upper vagina to the lower. She was treated with oral oestrogen for 6wks post operatively. Conclusion: Transverse vaginal septa can present in a variety of ways of which infertility can be one. Proper evaluation is of importance. Management is surgical extent of which will depend on the location and thickness of the septum.***

Keywords: Transverse Vaginal Septum, Mullerian Anomaly, Cyclical Dysmenorrhea, Infertility, Surgical Management

1. Introduction

Transverse vaginal septum is a rare type of mullerian anomaly resulting from failure of the canalization of the vaginal plate at the point where the urogenital sinus meets the mullerian duct1. Its incidence is estimated as 1/70, 000 females, making it one of the rarest anomalies of the female genital tract2. Transverse vaginal septa commonly have a small central or eccentric perforation1. Imperforate septum usually presents early in adolescence with obstructed menstruation. However, patients with perforate septum often have menses which can be prolonged and painful or usually present with difficulties with intercourse or infertility. The exact location and the thickness of the septa vary, but are more frequent in the upper vagina and mostly less than 1 cm in thickness3. As per the new European Society of Human Reproduction and Embryology/European Society for Gynaecological Endoscopy consensus classification in 2013 transverse vaginal septum was accepted as the V3 subgroup among the mullerian duct anomalies4.

2. Case Report

We present a case of a 27yr old, nulligravida, married since 10yrs and trying to conceive since 6yrs. Her periods were regular, every 28days, she bled for 6 days and accompanied by severe dysmenorrhea. She gave a history of inability to have an intercourse. She had undergone appendicectomy in the past. On examination all her secondary sexual characters were well developed, external genitalia normal, a vaginal dimple was seen. USG showed a normal size uterus without any malformations, normal endometrial cavity and proximal vaginal echo.

Examination under anaesthesia revealed two small openings just under the urethral meatus. A dilator could be passed through each. One of opening was dilated enough to pass the hysteroscope. Vaginoscopy followed and a cervix was seen and it was confirmed that the septum was transverse. Both the openings were further dilated with graduated dilators till a finger could be passed through them. The septum was thus reduced to a band between the two openings, that was hooked out and cut using a cautery. A speculum could then be introduced into the vaginal cavity and the cervix was exposed and held with an allis's forceps. A hysteroscope was then introduced and the uterine cavity visualized which was normal.

3. Discussion

One of the rare causes of primary infertility is transverse vaginal septum. Although the transverse septum and imperforate hymen are not associated with other mullerian anomalies5, unlike the longitudinal vaginal septum, which often occurs with uterine anomalies such as a septate or didelphic uterus. It results from either incomplete canalization of the vaginal plate or failure of the paramesonephric ducts to meet the urogenital sinus. There are few data available in the literature about the classification or the surgical management of transverse vaginal septa. The classification is made using the new European Society of Human Reproduction and Embryology/European Society for Gynaecological Endoscopy consensus in 2013 and transverse vaginal septum was accepted as the V3 subgroup among the mullerian duct anomalies3. Our case was classified as U0C0V3 because our patient had no associated uterine or cervical anomalies. Perforated - type transverse vaginal septa is usually asymptomatic until adolescence or adulthood because these patients have no outflow obstruction however in smaller perforations like our case may experience dysmenorrhoea. They may present with infertility (due to failure in having an intercourse) or sometimes with coital problems. They may also be diagnosed incidentally during vaginal examination. Patients with a complete transverse vaginal septum present in a similar manner to patients presenting with an imperforate hymen. Physical examination, however, reveals a patent hymen and nonbulging vaginal introitus. Rectal examination may be employed to determine the distance from the vaginal introitus to the obstruction. Clinical examination, ultrasound, and MRI may all be used in the diagnosis and preoperative planning. MRI has been shown to be useful as it allows for the identification of the location and thickness of the septum6. In addition, MRI distinguishes between cervical agenesis,

lower vaginal atresia and a transverse vaginal septum. Treatment involves surgical resection of the septum and anastomosis of the proximal and distal parts. The main goal during surgery must be to maintain the continuity of the vaginal epithelium and restoration of normal vaginal calibre and length. Transverse septa can be seen at different locations of the vagina. According to the study by Rock et al transverse vaginal septum cases are seen upper third in 46%, middle third in 40% and in the lower third in14% of cases. Our patient had a mid - vaginal septum. Diagnosis and the treatment plan should be made after performing a clinical examination, ultrasonography, and MRI. It can be dealt with by vaginal, laparoscopic, and abdominoperineal approaches according to the localization and the thickness of the septum. Surgical management is the definitive therapy but can be associated with subsequent vaginal strictures requiring dilation. Thin septa can be resected followed by an end - to - end anastomosis of the proximal and distal vagina7. Thicker septa, however, present a surgical challenge as resection may leave a defect between the proximal and distal vagina possibly requiring skin or intestinal graft to bridge the gap 8. Complication rates are low if the septum is located in the distal part of the vagina and it is a thin, perforated septum. If the septum is at the mid - upper part of the vagina and it is not thicker than 2 cm, laparoscopy would be the correct treatment approach. If the septum is thicker than 2 cm, the abdominoperineal approach is necessary; however, complication rates are high 9. These complications are mostly vaginal stenosis and reobstruction. In the study of Joki - Erkkilä and Heinonen9 two of three patients with isolated transverse septae had reobstruction and needed reoperation despite their septal thicknesses being less than 1 cm. Therefore, to prevent such obstruction, regular postoperative dilator therapy is essential. Additionally, early coitus after complete healing must also be advised.

4. Conclusion

Transverse vaginal septum is a rare mullerian tract anomaly and selected patients can be treated by simple excision with or without anastomosing the proximal and distal vaginal tissue depending on the thickness of the septum. It is safe, effective, and easy to perform. The recurrence and complication rates vary due to the location and the thickness of the septum. Surgical resection of the septum results in successful restoration of the genital tract anatomy and allows normal fertility.

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Conflict of Interest: All the Authors declare no conflicts of interest.

Patient's Consent: Written consent of the patient was taking before reporting the case.

Funding: No funding received.

Ethics approval: Not applicable

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