



THE AGA KHAN UNIVERSITY

eCommons@AKU

Department of Radiology

Medical College, Pakistan

September 2017

Transverse vaginal septum : Report of two patients with MRI findings.

Shaista Afzal Saeed

Aga Khan University, shaista.afzal@aku.edu

Imrana Masroor

Aga Khan University, imrana.masroor@aku.edu

Saira Naz

Aga Khan University, Saira.naz@aku.edu

Shazia Bhurgri

Aga Khan University, shazia.bhurgri@aku.edu

Follow this and additional works at: https://ecommons.aku.edu/pakistan_fhs_mc_radiol

Recommended Citation

Saeed, S., Masroor, I., Naz, S., Bhurgri, S. (2017). Transverse vaginal septum : Report of two patients with MRI findings.. *Journal of the College of Physicians and Surgeons--Pakistan*, 27(9), S74-S76.

Available at: https://ecommons.aku.edu/pakistan_fhs_mc_radiol/125

Transverse Vaginal Septum: Report of Two Patients with MRI Findings

Shaista Afzal¹, Imrana Masroor¹, Saira Naz¹ and Shazia Bhurgri²

ABSTRACT

The transverse vaginal septum is a rare form of Mullerian duct anomaly, and is a disorder of vertical fusion of Mullerian system with the sinovaginal bulb. Magnetic resonance imaging (MRI) is very useful in the detection, classification and management planning of this rare anomaly. We present two cases of transverse vaginal septum in two patients of different age groups and with different clinical presentations. The findings on MRI, related to presence of vaginal septum and the management work-up, are also discussed.

Key Words: Mullerian duct anomalies. Transverse vaginal septum. MRI.

INTRODUCTION

The identification of Mullerian duct anomalies is important in the treatment of symptoms that are caused by an obstructed or deformed reproductive tract and may result in infertility. One of the rare forms of these anomalies is the transverse vaginal septum with incidence ranging between 1/2,100 and 1/72,000.¹ Transverse vaginal septum, which may be obstructive or non-obstructive, is a disorder of vertical fusion and results due to failure of fusion of Mullerian system with the sinovaginal bulb.² Magnetic resonance imaging (MRI) is very useful in the detection, classification and management planning of uterovaginal anomalies.³

We present two cases of transverse vaginal septum in patients of different age groups and with different clinical presentations. We also aim to present the findings on MRI, related to vaginal septum.

CASE REPORT

Case 1: The patient was a 13-year girl who presented to clinic with complain of cyclical abdominal pain for 4 months. Onset of menarche was not reported. Family history of imperforate hymen was positive. A pelvic ultrasound was done which showed anteverted normal size uterus. The vagina was significantly distended with fluid, showing internal echoes and measured 4.1 cm in width. The fluid within the vagina appeared to be tracking into the endometrial cavity and cervix. Both ovaries were normal and there was no fluid in cul de sac. Pelvic examination was not performed due to patient

refusal. Multiplanar multisequential MRI scan of pelvis (Figure 1) was done with and without contrast, which showed abnormal heterogeneous signal intensity without contrast enhancement within the lower cervix and upper two-thirds of vagina. The lower one-third of vagina was non-distended. On post-contrast images, a thin enhancing septum measuring 3 mm in thickness was seen at a distance of 15 mm from the introitus, findings consistent with transverse vaginal septum. There was also associated mild left hematosalpinx.

Examination under anesthesia (EUA) showed normal looking vulva and hymen; and above the hymen, a

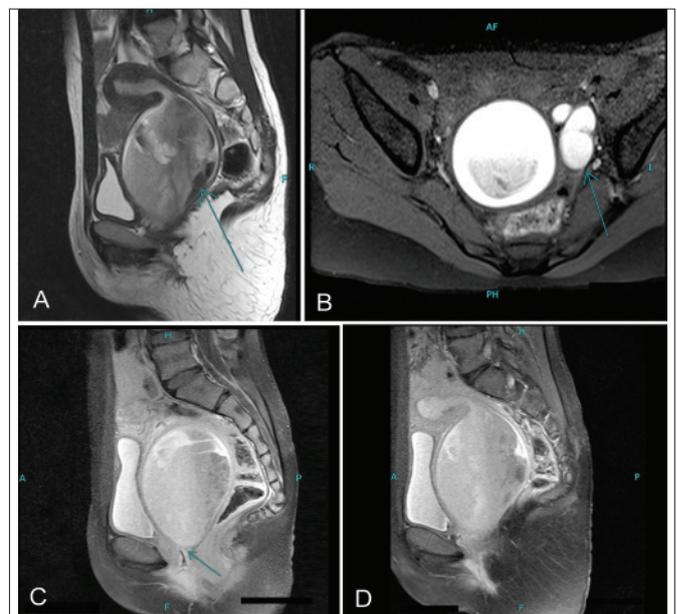


Figure 1: MRI pelvis of a 13-year patient presented with cyclical abdominal pain since 4 months. (A) T2W sagittal image shows abnormal heterogeneous signal intensity within the lower cervix and upper two-thirds of vagina. (B) T1W fat sat image shows haemorrhagic contents in the distended upper vagina along with left-sided hematosalpinx as marked by arrow. (C & D) T1W post-contrast images show no contrast enhancement of the abnormal heterogeneous signal intensity and a thin enhancing septum, consistent with transverse vaginal septum marked by arrow in lower vagina.

Department of Radiology¹ / Obstetrics and Gynecology²,
The Aga Khan University Hospital, Karachi.

Correspondence: Dr. Shaista Afzal, Assistant Professor,
Radiology Department, The Aga Khan University Hospital,
Stadium Road, Karachi, Pakistan.

E-mail: shaista.afzal@aku.edu

Received: August 29, 2016; Accepted: March 16, 2017.

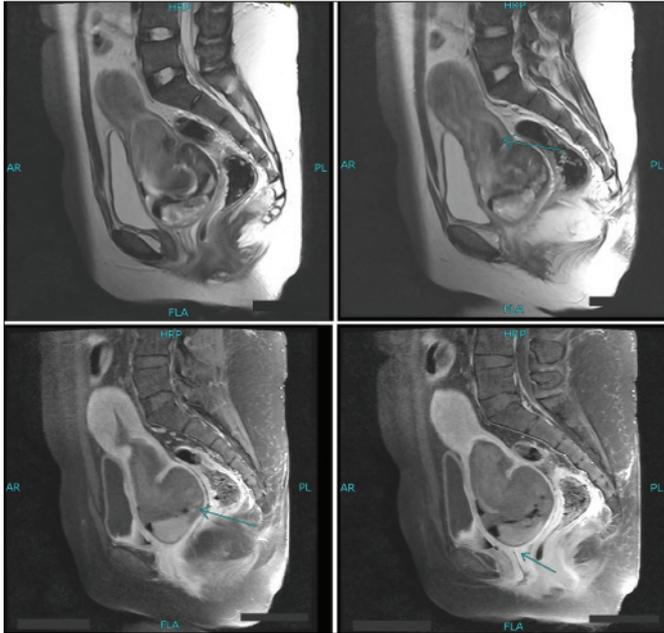


Figure 2: MRI of pelvis of an 18-year young adult primigravida with 13 weeks missed miscarriage, who presented in emergency department with per vaginal bleeding since 4 days.

(A & B) T2 W sagittal section shows anteverted enlarged uterus with products of conception (arrow) in the lower uterine segment, cervix and upper vagina. (C & D) T1W postcontrast sagittal images show non-enhancing products of conception (arrow in C) and a thin transverse membrane in the lower vagina (arrow in D) that was consistent with transverse vaginal septum.

transverse septum was seen in dilated vagina. Patient underwent vaginal septoplasty and edges of the septum were sutured. During the procedure, 300-400ml of old blood was drained. At the end of procedure, vaginoscopy was done, which revealed normal cervix. Intravaginal foleys were retained, which was removed next day and patient was discharged in stable condition. On follow-up visit, patient had no complaints and vagina was patent.

Case 2: The second patient was an 18-year young adult, primigravida, with 13 weeks missed miscarriage, who presented in emergency department with per vaginal bleeding since 4 days. She reported regular menstrual cycle since menarche at 12 years. She gave no history of dysmenorrhea or dyspareunia. On speculum examination, blind ended short vagina was seen and cervix was not visualized. Superiorly, in the apical region of vagina, a small opening was seen with blood discharging through it. On vaginal examination, no differentiation was felt between vagina and cervix and a small aperture was felt.

Ultrasound scan was done which showed intrauterine fetal demise at 14+ weeks. She was given medical treatment for termination of pregnancy which subsequently failed and on review tranvaginal ultrasound, a septum measuring 3 mm was noted in the vagina that appeared close to the external os. For confirmation of the findings and for detection of associated developmental anomalies, an MRI scan was

done (Figure 2), which showed anteverted enlarged uterus with products of conception in the lower uterine segment, cervix and upper vagina. There was a thin transverse membrane measuring 4 mm at a distance of 27 mm from the introitus that was consistent with transverse vaginal septum.

EUA confirmed presence of transverse vaginal septum in the vagina that revealed a small opening. Greenish-brown, foul smelling, mucus was seen discharging through the opening. The retained products of conception were removed. Transverse vaginal septum was resected at both sides of lateral vaginal walls. No postoperative complications were observed. Patient was discharged on 2nd postoperative day in stable condition. The follow-up visit was unremarkable.

DISCUSSION

Transverse vaginal septum is a rare congenital anomaly that occurs around the 20th week of gestation⁴ and results from failure of fusion of Mullerian duct with urogenital sinus, thus dividing the vagina and causes obstruction of the vaginal canal. The exact etiology of this anomaly is unknown; although female sex-linked autosomal recessive transmission has been described in most cases.⁵ In accordance to the American Fertility Society classification, the transverse vaginal septum belongs to class 2 and is a disorder of vertical fusion. It was first described by Delaunay in 1877.⁶

The common site for the presence of the septum is the upper vagina (46%) but this can also be located in mid (40%) or lower vagina (14%)⁷ and is composed of fibrous tissue and muscular component.⁸ The transverse vaginal septae are classified depending on its distance from the introitus as low (<3cm), mid (3-6cm), and high (>6cm). According to thickness, it is categorized as thin i.e. <1cm and thick > 1cm and as perforate or imperforate.¹

The clinical presentation after menarche depends on whether the transverse vaginal septum is imperforate when the symptoms may include primary amenorrhea, abdominal mass and pain as is also noted in our pediatric patient. If the septum is incomplete, then the menstrual symptoms may be absent and it may be detected due to other presentations like dyspareunia and obstructed vaginal delivery; as was the clinical presentation in our second case.

The easiest and most cost-effective diagnostic tool is physical examination; but this may sometimes be denied by patients and not always definitive. A useful initial imaging tool that aids in diagnosis is ultrasound, which is the primary modality in most cases and can demonstrate findings secondary to obstructed vagina and other associated uterine anomalies, e.g. uterine didelphys. The caveat is that the adnexal masses and fibroids can mimic developmental anomalies and there is reduced sensitivity of ultrasound in obese patients.⁹

On MRI, the transverse vaginal septum appears hypointense relative to the bright blood-filled vagina and the level of obstruction varies among cases. It is commonly found in the middle and upper third, and an unobstructed septum is more common.⁴ In the present report, the vaginal septum was thin and low in both patients, but was perforated in the adult patient, while it was imperforate in pediatric patient.

MRI is useful in the evaluation of pelvis and assessing the septal thickness, its distance from introitus, delineation of the more complex genital tract anomalies and associated complications like hematometra, hematocolpos, hematosalpinx, hemoperitoneum etc. Hence, provide relevant information regarding the surgical approach.¹

The MRI image acquisition includes T2-weighted fast spin echo (FSE) sequences in all three planes, i.e. axial, coronal and sagittal; and large field of view coronal T1-weighted sequence to exclude anomalies of kidneys and pelvis and an axial T1-weighted sequence. For evaluation of intraluminal abnormalities, the use of aqueous gel to distend vaginal cavity has been reported.⁵ The important differential of a high vaginal septum is absent cervix that can be diagnosed on MRI with reasonable accuracy. Another differential diagnosis of a low transverse vaginal septum on MRI is an imperforate hymen, which on examination, bulges with Valsalva maneuver.

The accessibility, accuracy and utilization of MRI for diagnosis of Mullerian duct anomalies facilitates the surgeon's discussion with the patient and family with treatment options. An important factor that influences surgical management and outcomes is the thickness of the transverse vaginal septum, as it is reported that low, thin and perforate septae, due to their less complexity,

can be treated by transvaginal resection with minimal complications.¹

Both patients in this case report were treated surgically by septoplasty because the septum was thin and low and there were no associated anomalies.

In conclusion, the rare congenital anomaly of transverse vaginal septum can present in any age group with a wide range of clinical findings; and a high index of suspicion is needed for appropriate diagnosis and adequate workup.

REFERENCES

1. Williams CE, Nakhil RS, Hall-Craggs MA, Wood D, Cutner A, Pattison SH, *et al.* Transverse vaginal septae: management and long-term outcomes. *Int J Obstet Gynaecol* 2014; **121**: 1653-8.
2. Saleem SN. MRI diagnosis of uterovaginal anomalies: current state of the Art 1. *Radiographics* 2003; **23**:e13.
3. Saks EK, Vakili B, Steinberg AC. Primary amenorrhea with an abdominal mass at the umbilicus. *J Pediatr Adolesc Gynecol* 2009; **22**:e1-3.
4. Ferreira DM, Bezerra RO, Ortega CD, Blasbalg R, Viana PC, Menezes MR, *et al.* Magnetic resonance imaging of the vagina: an overview for radiologists with emphasis on clinical decision making. *Radiol Bras* 2015; **48**:249-59.
5. Burgis J. Obstructive Müllerian anomalies: case report, diagnosis, and management. *Am J Obstet Gynecol* 2001; **185**:338-44.
6. Al-Assadi AF. Transverse vaginal septum: intrauterine pregnancy. *Research* 2014; 10.
7. Propst AM, Hill JA 3rd. Anatomic factors associated with recurrent pregnancy loss. *Semin Reprod Med* 2000; **18**:341-50.
8. Junqueira BL, Allen LM, Spitzer RF, Lucco KL, Babyn PS, Doria AS. Müllerian duct anomalies and mimics in children and adolescents: correlative intraoperative assessment with clinical imaging 1. *Radiographics* 2009; **29**:1085-103.
9. Pui MH. Imaging diagnosis of congenital uterine malformation. *Comput Med Imaging Graph* 2004; **28**:425-33.

