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TRANSVERSE VAGINAL MEMBRANE TREATED BY RAIL-ROAD TECHNIQUE USING FOLLY'S CATHETER WITHOUT DISRUPTING THE HYMEN

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ABSTRACT

Background: Genital outflow tract obstruction is a rare cause of primary amenorrhea. Transverse vaginal septum is a rare condition that results from abnormalities in the vertical fusion between the vaginal components of the Mullerian ducts and the urogenital sinus. If the septum is complete, the menstrual flow will be obstructed causing primary amenorrhea. We present a case of 12-year old girl presented by her family to the obstetric and gynaecological outpatient of Al-Batool teaching hospital with acute lower abdominal pain for one day duration. History revealed severe lower abdominal pain for the last day with normal bowel motion, no vomiting, no urinary complaint, and no fever. There was no previous history of such pain. Gynaecological history revealed no previous menstrual cycle. Vital signs were normal. Ultrasound showed cystic mass (5x7) cm between the bladder and the cervix. The patient prepiared for laparotomy. Pfannenstiel incision made, the pelvis explored, both ovaries were normal and a cystic mass involving the upper vagina was found. Rail-Road Technique (that it is used for repair of urethral injury) using a 24 gage Folly's catheter passed through the hymen then through the transvaginal membrane to be placed above the membrane, kept for 2 weeks, after that the Folly's catheter was removed. The patient continued experiencing normal menses without any problem for the last five years. For soscial reasons, the surgical excision of the transverse vaginal membrane waited to be performed when the patient got married. **Conclusion:** Rail-Road Technique inserting a Folly's catheter above a congenital transverse vaginal membrane is good option in areas where disrupting the hymen is refused before marriage.

KEYWORDS: Transverse vaginal septum, Foley catheter.

INTRODUCTION

The embryonic development of female genital tract is complex. It depend first on cellular differentiation followed by migration, fusion and finally canalization. This developmental process is very closely associated with that of the urinary system and the hind gut.[1]

The Mullerian ductus's caudal parts unite to form the uterus and its fellow, the vagina. The vaginal plate is formed by joining the fused Mullerian ducts with the urogenital sinus joins.

If vertical fusion of the Mullerian ducts with the urogenital sinus failed, or the fusion was incomplete, the end result will be vaginal anomalies, uterine anomalies and transverse vaginal septum. This the later, transverse vaginal septum will be in the form of fibrous connective tissue membrane with muscular and vascular component.[2] Transverse vaginal septum is the most common cause of vaginal obstruction.[3]

The clinical presentation of transverse vaginal septum vary from case to case, it depend on whether the transverse cross of the septum across the vagina is complete or partial.

When a septa which is complete, the menstrual blood collect and distend the uterus and the part of the vagina above the septa at puberty. This result in hematocolpus and hematometra. Those females present usually with monthly lower abdominal pain and hematocolpometra on ultrasound examination. Sometimes, a lower abdominal mass resulted from the hematometra is palpable.[4]

The incidence of occurrence of transverse vaginal septum is 1 in 300,000females and the anomaly is considered as a class II of Mullerian duct anomalies according to the modified Rock and Adam classification. The septum may present in the lower, middle and upper thirds in 19%, 35% and 46% of patients respectively.[5, 6, 7]

CASE REPORT

Twelve years old girl presented by her family to the obstetric and gynaecological outpatient of Al-Batool teaching hospital with acute lower abdominal pain for one day duration on twenty 2nd of January 2012. History revealed severe lower abdominal pain for the last day with normal bowel motion, no vomiting, no urinary complaint, and no fever. There was no previous history of such pain. Gynaecological history revealed no previous menstrual cycle.

On Examination: the vital signs were; pulse rate of 90/min., blood pressure 100/60, temperature 37c, and a respiratory rate of 18/min.

The abdomen was soft with lower abdominal tenderness, vaginal inspection reveal normal intact hymen.

Investigations done for her and the results were CBC; Hb 12 g/dl, WBC 7000, platelet 300, 000,GUE –normal parameters, pelvic ultrasound show cystic mass (5x7)cm between the bladder and the cervix.

The patient diagnosed as having complicated ovarian cyst and based upon this diagnosis, the patient prepared for laparotomy. Pfannenstiel incision made, the pelvis explored, both ovaries were normal and a cystic mass involving the upper vagina was found.

Procedure performed

The cyst incised longitudinally, menstrual blood yielded and a transverse vaginal membrane was found above hymen in the upper part of the vagina. Complete evacuation of the cyst done using suction device.

For soscial reasons the hymen should be reserved and for this reason a new technique other than that involve disrupting the hymen followed. The technique used was the Rail-Road Technique.

Rail-Road Technique used by introducing a 24 gage Folly's catheter kept for 2 weeks, after that the Folly's catheter was removed.

The Rail-Road Technique done as follow; a dilator inserted from above through the membrane and through the normal hymen opening while preserving the hymen integrity. The dilator used as a guide for the Folly's catheter which followed the dilator up passing through the transvaginal membrane to be placed above the membrane. The catheter left for two weeks then removed.

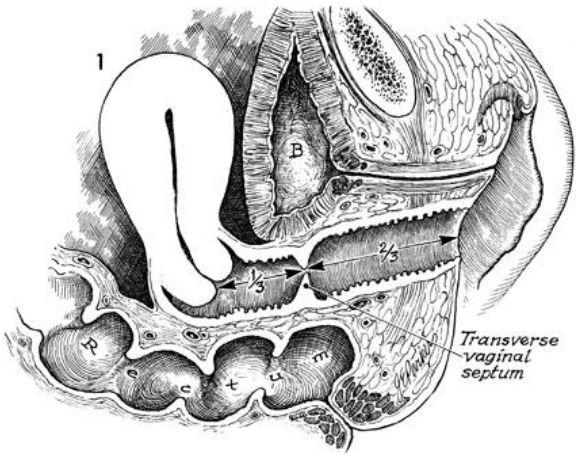
RESULTS

The patient continued experiencing normal menses without any problem for the last five years. For soscial reasons, the surgical excision of the transverse vaginal membrane waited to be performed when the patient got married.

DISCUSSION

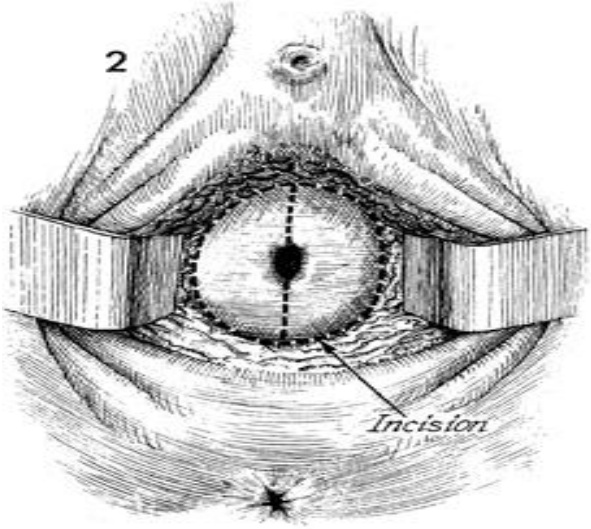
Transverse vaginal septum generally occurs between the upper one-third and lower two-thirds of the vaginal canal.

The septum can be either complete or partial. If it is complete, the symptoms of vaginal obstruction occur at the time of menarche, since menstrual blood is entrapped above the septum and has no egress from the vagina. If the septum is partial, it may be discovered on a routine gynecologic examination, or the patient may present with dyspareunia.

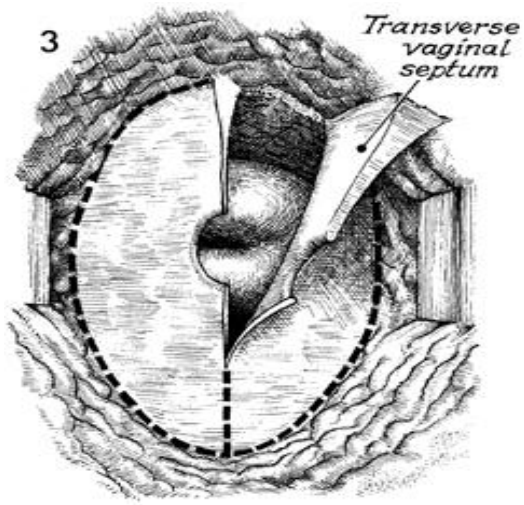


The usual procedure for excision of the membrane is as follow[8]

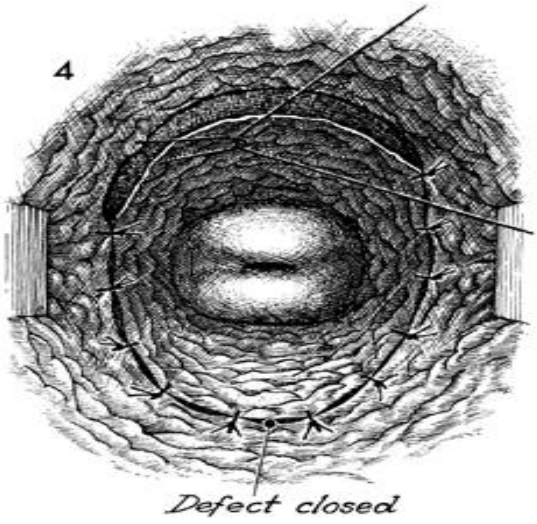
With the patient in the dorsal lithotomy position, the perineum is prepped and draped, and adequate vaginal retraction is applied to allow exposure of the septum, which is incomplete here. Initially, the septum is grasped with Allis clamps, and a vertical incision is made through the septum to divide it in half.



The septum is picked up with tissue forceps, traction is applied, and with a scalpel the septum is separated from the vaginal mucosa.



The vaginal mucosa is then approximated with interrupted 3-0 synthetic absorbable suture throughout its circumference.



In our case we follow different technique to preserve the hymen; the Rail-Road Technique.

Gezginç K1, Yazici F, Karatayli R, Acar A. used the Rail-Road Technique in a 13-year-old girl who presented with abdominal pain. Imaging techniques yielded hematocolpos. The patient and her family refused vaginal surgery in order to preserve hymen integrity for sociocultural beliefs. At laparotomy, a vertical incision was made on posterior vaginal wall. An artery forceps was introduced from the hymenal opening while preserving the hymenal integrity. The septum located on the upper third of vagina was perforated by the help of a forceps introduced from posterior vaginal wall via an abdominal route. A Foley catheter was introduced from the introitus toward the septal perforation and was held by the forceps. The balloon of the catheter was placed on the perforated septum and it was insufflated with 10 ml of fluid. The Foley catheter was in place for 2 weeks. After removal of the catheter, she received oral contraceptive pills for 3 months postoperatively. She had regular spontaneous menses on follow-up for 6 months duration.[9]

CONCLUSION

Rail-Road Technique inserting a Folly's catheter above a congenital transverse vaginal membrane is good option in areas where disrupting the hymen is refused before marriage.

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