CASE REPORT

Secondary amenorrhea attributed to occlusion of microperforate transverse vaginal septum

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Objective: To present a case of secondary amenorrhea after occlusion of microperforate transverse vaginal septum.
Design: Case report.
Setting: Academic teaching hospital.
Patient(s): A 19-year-old woman with new onset of irregular menses and pelvic pain, with history of menarche at age 14.
Intervention(s): Surgical evaluation and treatment, including laparoscopy, hysteroscopy, and excision of septum, followed by repeat surgery with lysis of adhesions due to agglutination of the area previously excised.
Main Outcome Measure(s): Awareness of the possibility of secondary amenorrhea occurring due to septal scarring of a perforate transverse vaginal septum.
Result(s): Imaging revealed a hematometra and hematocolpos. Examination revealed a transverse vaginal septum. Ultrasound scans and magnetic resonance imaging revealed an enlarged uterus and an endometrial cavity and cervix distended with fluid and debris. Examination under anesthesia revealed a septum approximately 5 mm thick, which was revealed to be benign fibromuscular tissue with chronic nonspecific inflammation.
Conclusion(s): This case demonstrates the evolution from a microperforate transverse vaginal septum with regular menses for over 4 years to an occluded septum. Although transverse vaginal septa causing amenorrhea are usually diagnosed at menarche, perforate septa have been shown to lead to hypomenorrhea, dysmenorrhea, dyspareunia, infertility, and issues with vaginal childbirth. We present a case in which a perforate transverse vaginal septum led to secondary amenorrhea. (Fertil Steril® 2010;94:351.e5–e10. ©2010 by American Society for Reproductive Medicine.)

Key Words: Amenorrhea, irregular menses, occlusion, perforate, secondary amenorrhea, transverse vaginal septum, TVS

Transverse vaginal septum (TVS), while a common vaginal congenital anomaly, still remains a rare finding. The condition was initially described by Delaunay in 1877, and Dannreuther later reported two cases in 1944 and referred to the malformation as a congenital vaginal occlusion of the cervix (1–3). The largest series of transverse vaginal septa was reported by Lodi in 1951, who described 42 patients with transverse vaginal septa out of 89,000 patients (1:2199) who had presented over a 44-year period (4, 5).

Transverse vaginal septum has been shown to occur at different depths within the vagina, and is usually reported as being in the upper third (high), middle third (midvaginal), or lower third (low) of the vagina. Lodi found within his large study that 45% of septa were high vaginal, 40% of septa were midvaginal, and 14% were low vaginal (4, 5).

Received October 6, 2009; revised December 15, 2009; accepted December 17, 2009; published online February 26, 2010.
J.L.N. has nothing to disclose. E.J.B. has nothing to disclose. J.S.G. has nothing to disclose.
Presented in part at the 64th annual meeting of the American Society of Reproductive Medicine (ASRM), San Francisco, California, November 12, 2008.
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A TVS can either be imperforate (complete) or perforate (incomplete). Lodi found that out of the 42 transverse vaginal septum cases 39 were perforate septa and three were imperforate septa (4, 13). A review of five articles reporting 19 cases showed a similar breakdown with two imperforate TVS (10%) and 17 perforate TVS (90%) (2). Imperforate TVS may present during either the neonatal period or at the onset of puberty. In the neonatal period, the infant is found to have a hydrometrocolpos due to accumulation of vaginal secretions. With the onset of puberty, young girls have an obstruction of their menses and present with dysmenorrhea and pelvic pain. Perforate TVS usually presents as an incidental finding but has been shown to lead to hypomenorrhea, dysmenorrhea, dyspareunia, infertility, or issues with vaginal childbirth. We present a case of a patient with normal menses for 4 years followed by secondary amenorrhea due to a complete obstruction of a previously perforate transverse vaginal septum.

CASE REPORT

A 19-year-old woman, gravida 0, presented for irregular menses. Imaging demonstrated a large hematometra. Menarche was at age 14 with regular menses occurring every 28 to 30 days and lasting 5 days. At the age of 18, she began experiencing irregular menses with up to 6 months of amenorrhea. Eight months after the start of

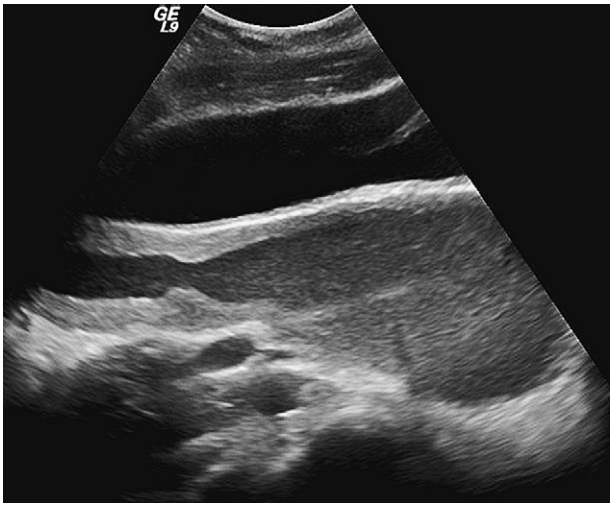
the irregular menses the patient experienced bilateral lower abdominal pain. Ultrasound imaging revealed an enlarged uterus measuring 17.8 × 6.9 × 3.7 cm and an endometrial cavity and cervix distended with fluid and debris (Fig. 1). A magnetic resonance imaging study showed a large amount of fluid in the uterus with gravity-dependent shading. The urinary system was normal. Physical examination revealed a 4-cm vaginal depth with thickened fibrotic tissue at the apex and no visualization of the cervix.

The patient underwent surgical evaluation and treatment. Examination under anesthesia revealed a septum approximately 5 mm thick, creating an approximately 4-cm blind vaginal pouch. The septum appeared to have scarring over a previously fenestrated or microperforate surface. Laparoscopy showed a large hematocolpometra (Fig. 2A), with an otherwise normal uterus, bilateral fallopian tubes, and ovaries. There was endometriosis on the surface of the ovaries, the bladder flap, and in the cul-de-sac. A stab incision was made in the bulging vaginal septum, and 600 mL of dark blood was evacuated (Fig. 2B). The incision in the vaginal septum was increased in a cruciate fashion, the septal tissue was excised with cautery, and the edges were sutured. Hysteroscopy showed a completely effaced cervix but otherwise normal uterine cavity. Pathology reported benign fibromuscular tissue with chronic nonspecific inflammation.

The patient initially did well postoperatively, having menses monthly for approximately 4 months. Unfortunately, the patient was not sexually active and did not use dilators. The patient again presented with cramping pain and 6 months of amenorrhea. An office ultrasound again revealed a hematocolpos measuring 5.18 × 4.05 cm, and a uterus with a dilated endometrial cavity. The patient was placed on a gonadotropin-releasing hormone agonist. At the time of the second surgery, the patient again had complete obstruction of the vagina, with agglutination of the area previously excised. The vaginal walls were adhered anterior to posterior with filmy adhesions. These adhesions were lysed, and the vagina was redilated to a normal caliber. A 16F Foley catheter was placed into the uterus, and a gram of estrogen cream was placed in the vagina. The Foley catheter was removed on day 6 after surgery, with a plan for nightly dilation and use of estrogen cream. Seven months later, the patient was doing well with the dilators and was experiencing regular menses; her cervix was visible on speculum examination.

FIGURE 1

Ultrasound image demonstrating hematometra, dilation of cervix, and hematocolpos.



Nichols. Occlusion of perforate transverse vaginal septum. Fertil Steril 2010.

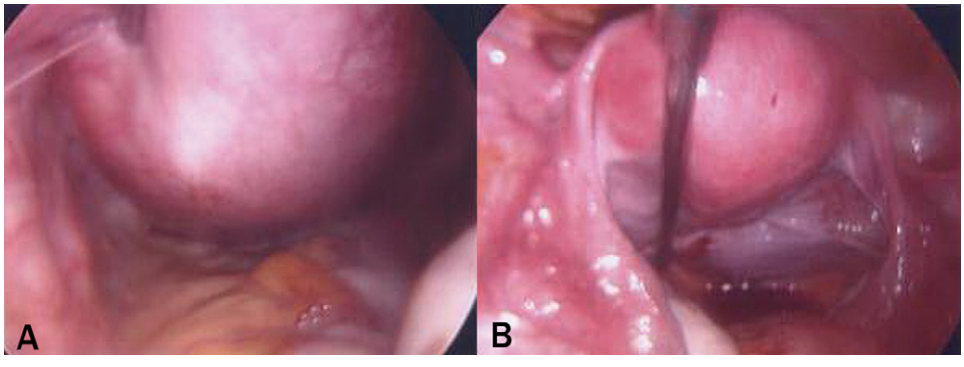
DISCUSSION

The transverse vaginal septum was shown to be the most common type of vaginal anomaly among Lodi's patients (42 out of 110 cases of vaginal abnormalities) (5). Although it is useful in documenting the presence of TVS, this reported incidence has been brought into question. Lodi's population did not represent the general population because he cared for a large number of patients with genital tract anomalies (6). Other reports have since shown the TVS incidence to range from 1:40,000 to 1:84,000 (6, 7).

The embryonic origin of the vagina remains a hotly debated topic. Initial work done by Koff (8) involved examining 125 human embryos of various gestational ages. He studied the development of the müllerian system and described the upper part of the vagina originating from the müllerian ducts; the lower part of the

FIGURE 2

First surgery. Laparoscopic images before and after the incision of the septum and drainage of hematometra. (**A**) The enlarged boggy uterus before evacuation of the large hematocolpometra. (**B**) Subsequent image of the normal appearing uterus after drainage of retained blood and tissue.



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