PEDIATRIC SURGERY *Update* ©
Vol. 26 No. 04 APRIL 2006

Transverse Vaginal Septum

Transverse vaginal septum is a congenital condition of females that can block the passage of vaginal secretions causing primary amenorrhea, hematocolpus and cyclic pelvic pain. Different to imperforate hymen, in a transverse vaginal septum you find a rim of nonbulging hymenal tissue on the vestibular floor with an intravaginal bulging membrane. The septum can be found in the upper, middle or lower vagina varying in thickness. Most common location of the septum is the upper vagina. Histologically, the diagnosis of transverse vaginal septum is made due to the presence of müllerian duct (mesodermal origin) tissue in the septum. Transverse vaginal septum is a defect of vertical fusion during embryogenesis of the vagina. The estimated incidence is one per 30,000 to 84,000 women. It is sometimes associated with genitourinary tract, gastrointestinal tract, musculoskeletal, and cardiac malformations. Physical exam and pelvic ultrasound are diagnostic. Surgical resection is the treatment of choice. The mucosa on either side of the blockage should be mobilize for approximation with interrupted sutures, while the underlying fibrous septum should be excised. Postoperative dilation may be necessary to prevent restenosis and dyspareunia. Patients with a complete transverse septum in the middle or upper vagina are less likely to conceive than patients with a septum in the lower vagina. Prompt diagnosis and surgical correction to drain accumulated blood may preserve fertility possibly through the prevention of endometriosis.

References:

1- Rock JA, Zacur HA, Dlugi AM, Jones HW Jr, TeLinde RW: Pregnancy success following surgical correction of imperforate hymen and complete transverse vaginal septum. Obstet Gynecol. 59(4):448-51, 1982
2- Ahmed S, Morris LL, Atkinson E: Distal mucocolpos and proximal hematocolpos secondary to concurrent imperforate hymen and transverse vaginal septum. J Pediatr Surg. 34(10):1555-6, 1999
3- Quinn T, Erickson V, Knudson MM: Down's syndrome, precocious puberty, and transverse vaginal septum: an unusual cause of abdominal pain. J Pediatr Surg. 36(4):641-3, 2001
4- Rana A, Manandhar B, Amatya A, Baral J, Gurung G, Giri A, Giri K: Mucocolpos due to complete transverse septum in middle third of vagina in a 17-year-old girl. J Obstet Gynaecol Res. 28(2):86-8, 2002
5- Beyth Y, Klein Z, Weinstein S, Tepper R: Thick transverse vaginal septum: expectant management followed by surgery. J Pediatr Adolesc Gynecol. 17(6):379-81, 2004

Septated Vagina

A septate vagina is another congenital condition that occurs from failure of longitudinal fusion of the lower müllerian ducts leaving a variable amount of an asymptomatic longitudinal vaginal septum in the child. Two vaginal canals are created by the septum completely or partially. As time passes the septate vagina goes unnoticed until the adolescent child start to use tampons or engage in sexual activity. The affected patient

might complain of menstrual leakage with the use of tampons since menstruation will continue to egress from the other vaginal canal not occluded by the tampon. This is the case with complete duplication of the müllerian system. Reassurance and vaginal hygiene is all that is required in these cases. Physical exams including endoscopy along with pelvic ultrasound are diagnostic. The identification of a duplicated cervix and a vaginal septum is consistent with several uterine malformations, which leads to frequent misdiagnosis and errors in management. On the other hand when the defect is an isolated partial vaginal septum the patient will complain of dyspareunia during sexual intercourse. Management in these cases consists of excision of the thick septa (septectomy) maintaining good hemostasis.

References:

1- Tolete-Velcek F, Hansbrough F, Kugaczewski J, Coren CV, Klotz DH, Price AF, Laungani G, Kottmeier PK: Utero vaginal malformations: a trap for the unsuspecting surgeon. J Pediatr Surg. 24(8):736-40, 1989
2- Mills PL, Pergament E: Urorectal septal defects in a female and her offspring. Am J Med Genet. 13;70(3):250-2, 1997
3- Haddad B, Barranger E, Paniel BJ: Blind hemivagina: long-term follow-up and reproductive performance in 42 cases. Hum Reprod. 14(8):1962-4, 1999
4- Patton PE, Novy MJ, Lee DM, Hickok LR: The diagnosis and reproductive outcome after surgical treatment of the complete septate uterus, duplicated cervix and vaginal septum. Am J Obstet Gynecol. 190(6):1669-75, 2004

Direct Inguinal Hernias

Direct inguinal hernias in infants and children are extremely rare comprising less than 2% of all inguinal hernias. Most inguinal hernias in children are of the indirect type where the defect and sac runs along the spermatic cord structures from the internal ring. Direct inguinal hernias occur due to a defect in the transversalis fascia presenting as a bulge medially in the groin. A direct hernia should be suspected when operating for an inguinal hernia and a typical indirect inguinal hernia is not found. Otherwise, most direct inguinal hernias in children are the result of a recurrence after initial repair of an indirect hernia where the inguinal floor was injured during the surgical procedure. During repair of a direct inguinal hernia a defect in the posterior wall of the inguinal canal medial to the epigastric vessels will be identified. The defect is repaired joining the transversalis fascia between the inguinal ligament and the conjoined tendon with interrupted nonabsorbable sutures (Cooper's ligament -McVay- repair). Laparoscopic repair of the common inguinal hernia in the child has reported a higher incidence of direct inguinal hernia.

References:

1- Viidik T, Marshall DG: Direct inguinal hernias in infancy and early childhood. J Pediatr Surg. 15(5):646-7, 1980
2- Gnidec AA, Marshall DG: Incarcerated direct inguinal hernia containing uterus, both ovaries, and fallopian tubes. J Pediatr Surg. 21(11):986, 1986
3- Wright JE, Gill AW: Direct inguinal hernias in the newborn. Aust N Z J Surg. 61(1):78-81, 1991
4- Grosfeld JL, Minnick K, Shedd F, West KW, Rescorla FJ, Vane DW: Inguinal hernia in children: factors affecting recurrence in 62 cases. J Pediatr Surg. 26(3):283-7, 1991
5- Schier F, Montupet P, Esposito C: Laparoscopic inguinal herniorrhaphy in children: a three-center

experience with 933 repairs. J Pediatr Surg. 37(3):395-7, 2002
6- Graf JL, Caty MG, Martin DJ, Glick PL: Pediatric hernias. Semin Ultrasound CT MR. 23(2):197-200, 2002
7- Schier F, Klizaite J: Rare inguinal hernia forms in children. Pediatr Surg Int. 20(10):748-52, 2004

---

* Edited by: **Humberto Lugo-Vicente, MD, FACS, FAAP**
Professor /Academic Director of Pediatric Surgery, University of Puerto Rico - School of Medicine, Rio Piedras, Puerto Rico.
Address: P.O. Box 10426, Caparra Heights Station, San Juan, Puerto Rico USA 00922-0426.
Tel (787)-786-3495 Fax (787)-720-6103 E-mail: *titolugo@coqui.net*
Internet: http://home.coqui.net/titolugo

ISSN 1089-7739