

Is there any risk for recurrence after the first operation of imperforate hymen?

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Summary

Aim: The hymenal tissue is a membrane formed through the fusion of the paramesonephric ducts and the urogenital sinus which is perforated normally in utero period. If not perforated, imperforate hymen develops which is usually not diagnosed until pubertal age. The authors present a girl who underwent second operation for imperforate hymen. They aimed to increase the awareness about the possibility for recurrence after operation in these cases. *Case:* A 17-year-old girl was consulted with prolonged bleeding and chronic pelvic pain who had underwent hymenotomy four years ago because of imperforate hymen. On gynecologic examination, any opening that allows menstrual blood flow was not observed. There was no appearance of hematocolpos or hematometra on ultrasonography. The opening on the hymenal membrane was not seen but found with a Hegar dilator under general anesthesia in the operation room. The genital tract outflow was provided to admit one-gloved finger. *Discussion:* Imperforate hymen is the most common congenital cause of genital tract obstruction with an incidence of one in 1,000 to 2,000 girls. The most frequently preferred approach to establish the menstrual outflow is hymenotomy. These patients should be informed that there is a potential for adhesion, reclosure, and need for additional operations.

Key words: Imperforate hymen; Hymenotomy; Hymenectomy; Virginity; Pelvic pain.

Introduction

The hymenal tissue is a membrane formed embryologically through the fusion of the paramesonephric ducts and the urogenital sinus, which is perforated normally in utero period. If not perforated, imperforate hymen develops which is usually not diagnosed until pubertal age. Imperforate hymen should be treated to provide the outflow of the menstrual bleeding. Surgical procedure for imperforate hymen is simple and effective but recurrence is possible due to scarring of the hymenal tissue.

The authors present an adolescent girl who had underwent hymenotomy four years ago. She had regular menses with prolonged bleeding and chronic pelvic and back pain. The authors aimed to increase the awareness about the possibility for recurrence in these cases.

Case Report

In July 2016, a 17-year-old girl consulted for prolonged bleeding and chronic pelvic and back pain. This girl had underwent hymenotomy four years ago because of imperforate hymen. After that operation, her menstrual bleeding had been extremely light (one pad/day) with long durations (10-15 days) every 28 days. Her medical and family histories were unremarkable. Her vital signs and physical examination were normal. She had secondary sexual characteristics and she was a Tanner stage IV female development. On gynecologic examination, any opening that allowed for menstrual blood flow was not observed due to patient discomfort. There was no appearance of hematocolpos or hematometra on pelvic ultrasonography (Figure 1).

She was informed about all risks and hazards of the operation and the potential for reclosure due to scarring of the hymenal membrane. Then she was taken to the operation room after pre-operative preparation. She was examined under general anesthesia in lithotomy position. The opening on the hymenal membrane was not seen but found with the help of a number 3 Hegar dilator (Figure 2). Then this area was extended with the cruciate incisions. The inset margins of the vagina were sutured with the edges of the hymenal membrane. After that, genital tract outflow was provided to admit one-gloved finger (Figure 3).

Discussion

The hymenal tissue which is a mesodermal tissue is degenerated normally at 22 weeks gestation. If this degeneration occurs abnormally, microperforate or imperforate hymen develops. Imperforate hymen is the most common congenital cause of genital tract obstruction with an incidence of one in 1,000 to 2,000 girls and rarely associated with other genital tract malformations [1, 2].

In the case of partial obstruction, termed as microperforate hymen, the woman has only problems regarding recurrent urinary tract infections, menstrual bleeding with longer duration, and postmenstrual bleeding. However the woman with imperforate hymen faces many serious problems. This condition cannot be usually understood until the age of menarche. If the uterovaginal secretions develop in utero because of maternal estrogenic stimulation and fill the blind vagina, hydrocolpos will develop after birth and

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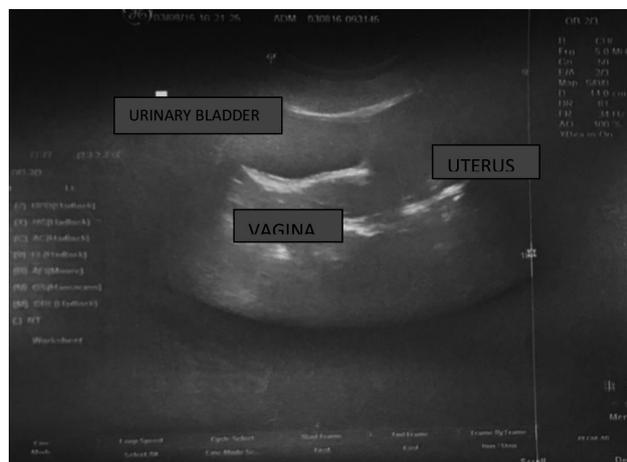


Figure 1. — The ultrasonographic appearance.



Figure 3. — Appearance of the hymenal tissue at the end of the operation.



Figure 2. — The opening of the hymenal tissue.

the girl will suffer from pain or urinary retention or intestinal obstruction as a result of mass effect. However in general, imperforate hymen is diagnosed when regular menses do not develop at the age of menarche. Accumulating blood expands the vagina and then uterine cavity, termed as hematocolpos and hematometra. In rare cases, lympho-venous obstruction may occur due to the compression of pelvic veins and lymphatics by the distended vagina [3, 4].

A careful physical examination is adequate for the diagnosis of imperforate hymen. The bulging hymenal tissue is observed due to accumulating blood in the vagina. This distended vagina can be felt as a mass in rectal examination. Pelvic ultrasound also reveals the distended vagina and uterine cavity.

The most frequently preferred approach to establish the menstrual outflow in these girls is hymenotomy using a variety of incisions which are simple vertical, T-shaped, cruciate, X-shaped, and cyclical [5, 6]. After incisions, inset margins of vaginal mucosa are sutured with the edges of hymenal membrane using absorbable sutures. Estrogen creams can be applied locally over hymenal ring to prevent adhesions. Although there are minimal differences between incision types, there is no superiority of them. X-shaped incision has the reduced risk of urethral injury. Simple vertical incision prevents to destroy integrity of virginity provided by hymenal membrane. Virginity is important and provided by the integrity of hymenal tissue according to some religious beliefs and sociocultural structures. In these societies, destruction of this integrity may develop some psychological problems in these girls [7]. Acar *et al.* developed an alternative treatment modality by placing of a Foley catheter which is left for two weeks and prescribed topical estrogen cream after operation [8].

Conclusion

The patients with imperforate hymen should be informed that there is a potential for adhesion, reclosure, and need for additional operations although rare. Hymenectomy should be definitive treatment after failed hymenotomy [9].

References

- [1] Segal T.R., Fried W.B., Krim E.Y., Parikh D., Rosenfeld D.L.: "Treatment of microperforate hymen with serial dilation: a novel approach". *J. Pediatr. Adolesc. Gynecol.*, 2015, 28, e21.
- [2] Dane C., Dane B., Erginbas M., Cetin A.: "Imperforate hymen-a rare cause of abdominal pain: two cases and review of the literature". *J. Pediatr. Adolesc. Gynecol.*, 2007, 20, 245.
- [3] Mwenda A.S.: "Imperforate hymen- a rare cause of acute abdominal

- pain and tenesmus: case report and review of the literature". *Pan. Afr. Med. J.*, 2013, 15, 28.
- [4] Mwampagatwa I.H., Mponda B.A.: "Imperforate hymen presenting with massive haematocolpos and acute urinary retention in a teenage girl: a case report". *Tanzan J. Health Res.*, 2012, 14, 293.
- [5] Ghadian A., Heidari F.: "Is hymenotomy enough for treatment of imperforated hymen?" *Nephrourol. Mon.*, 2013, 5, 1012.
- [6] Abu-Ghanem S., Novoa R., Kaneti J., Rosenberg E.: "Recurrent urinary retention due to imperforate hymen after hymenotomy failure: a rare case report and review of the literature". *Urology*, 2011, 78, 180.
- [7] Basaran M., Usal D., Aydemir C.: "Hymen sparing surgery for imperforate hymen: case reports and review of literature". *J. Pediatr. Adolesc. Gynecol.*, 2009, 22, e61.
- [8] Acar A., Celik C., Cicek N., Gezginc K., Akyürek C.: "Treatment of imperforate hymen by application of Foley catheter". *Eur. J. Obstet. Gynecol. Reprod. Biol.*, 2003, 106, 72.
- [9] Al-Hunaidi O., El-Shazly M., Alkandari M., Ghobashy A., Alhajeri F., Allam A.: "Acute urine retention caused by hematocolpos after failed hymenotomy in 23 year old female". *Urol. Case Rep.*, 2015, 3, 50.

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