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Imperforate hymen complicated by obstructive acute renal failure

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Abstract Imperforate hymen is a rare malformation (1/ 1000 female births). It is diagnosed most often during puberty. Early diagnosis of hematocolpos and evacuation is necessary to avoid any consequences. We report a rare case of an imperforate hymen complicated with acute urinary retention, hydronephrosis and renal failure in a

14-year-old girl to emphasize the possible misdiagnosis and its possible consequences. This is the first case we encounter in our unit.

Keywords: Hymen, imperforate, hymenectomy, hydronephrosis, renal failure.

Introduction

Imperforate hymen is a rare and isolated malformation of the female reproductive system (1/ 1000 female births).¹ It is diagnosed most often during puberty as hematocolpos by retention of the first menses. Early diagnosis of hematocolpos and evacuation is necessary to avoid any consequences. We report a rare case of an imperforate hymen complicated with acute urinary retention, hydronephrosis and renal failure in a 14-year-old girl.

Case

A 14-year-old girl was admitted to the gynaecologic department for onset of abdominal pain and acute urinary retention. She experienced four similar episodes during the four last months. Secondary sexual characteristics were normal for her age (Tanner stage IV). A mass, around 15 cm in diameter, was palpable between the umbilicus and the pubic bone. The mass was tense, with regular contours and dull to percussion. Mobilization was limited and painful. (Fig.1A). On perineal examination, a bulging and purplish imperforate hymen was identified (Fig.1B). It was tender. Rectal examination revealed a large pelvic mass tense and sensitive. Creatinine level was 50 mg/dl. Transabdominal ultrasound found a suprapubic homogeneous and fluid-filled mass around 15.5 cm in diameter (Fig.1C) associated with left hydronephrosis (Fig.1D). Urethral catheteriza-

tion was not possible due to the pelvic mass.

A hymenectomy was performed and 1400 ml of altered blood was drained. Figure 1E shows the postoperative aspect after hymenectomy. Bladder catheterization was then possible. The post-operative ultrasound examination showed a normal uterus. She was discharged on postoperative day one with an uneventful recovery. Sonographic morphology of left kidney was normalized ten days after drainage of the hematocolpos (Fig.1F) and creatinine level returned to normal after five weeks. The nephrologist suggested weekly monitoring of renal function. Normal menses appeared six weeks after surgery.

Fig1A: Suprapubic mass represented by the hematocolpos



Fig1B: Appearance of the imperforate hymen**Fig1C:** Left hydronephrosis**Fig1D:** Sonographic appearance of hematocolpos**Fig1E:** Postoperative view of the hymenectomy**Fig1F:** Appearance of the left kidney 10 days after the drainage of hematocolpos

Vaginal secretions accumulated in late pregnancy are exacerbated by the genital crisis.⁶

The result is a hydrocolpos which diagnosis can be made by ultrasound examination during antenatal period. Urinary retention, difficulty in breathing or delayed passage of meconium are possible. At puberty, the diagnosis is often discovered by painful primary amenorrhea, abdominal pain (cyclical and more intense) or the discovery of an abdominopelvic mass. Retention of menstrual flow is responsible for the creation of a hematocolpos. Some symptoms may be associated with: back pain (38-40%), urinary retention (37-60%), constipation (27%).⁷ Vaginal distension might compresses the urethra, bladder, ureters and rectum. Clinical examination can find a suprapubic mass and vulvar inspection confirms the imperforate hymen that is thick with a bluish color. Digital rectal examination found retention as a renitent mass. Ultrasound is not necessary to make the diagnosis but can be useful to assess the upstream impact (haematometria or h matosalpinx). However, in some doubtful cases, ultrasound allows for better planning of surgery.³ When the diagnosis is made late, complications as retrograde menstruation, rupture of haematosalpinx or hydronephrosis can be observed.^{5,8}

A case of spontaneous rupture of the hymen by a large hematocolpos has been described.⁷ The treatment of imperforate hymen is exclusively surgical. In the newborn, the resection of the central part of the hymen is easy and allows the preservation of a free edge. No drainage is necessary. At puberty, a hymenectomy is made.

Discussion

The imperforate hymen affects about one girl in 1000.¹ It results from the lack of resorption of the hymen membrane that is part of the cloacal membrane. It is usually sporadic, but familial cases have been reported.^{2,3} It was first described by Ambroise Par .⁴ Imperforate hymen is seldom associated with other malformations of the female reproductive system because the hymen is not derived from the Mullerian system.⁵ The diagnosis requires a high index of suspicion. An examination of the vulva is not always done before puberty and it is, therefore, not uncommon that the diagnosis is made in an emergency context. In the neonatal period, the systematic examination of the vulva would usually reveal a thin hymen, tense, bulging, bluish-white and non-tender.

Two techniques are mainly used:⁷ a simple incision or excision of the membrane. Acar et al. advocated the use of "mini-hymenotomy" (0.5 cm incision) together with keeping a Foley catheter in situ for 2 weeks.⁹ However, this technique is not universally accepted due to the high recurrence rate. Laparoscopy can be proposed to treat adhesions secondary to reflux of menstrual blood in the peritoneal cavity. In cultures where virginity is highly prized for marriage, premarital hymen rupture can shame a woman or her family. Hymenotomy may cause dyspareunia (fibrosis hymen) or conversely a defloration when hymen membrane excised is important. We believe that in any case of hymenotomy, a medical certificate must be given to parents to deal with potential conflicts that could result in the absence of bloody discharge during the wedding night. In addition, hymeoplasty in these cases is a nice alternative in accordance with the ethical principles.¹⁰

Conclusion

Imperforate hymen is a rare malformation that can be troublesome when diagnosed late. The systematic gynecological examination of newborns help to reduce the complications caused by the menstrual retention in adolescence. In addition, any pelvic pain in a young girl old enough to have her menses, one of the The diagnoses of imperforate hymen should be considered in a pubertal girl who is complaining of cyclical abdominal pain.

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