Neglected case of Imperforated Hymen presenting as Massive Hematocolpos with Large Protruding Introital Mass and Acute Urinary Retention

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Abstract

The clinical presentation of imperforate hymen varies significantly from patient to patient depending on the age at diagnosis, but in most cases, the diagnosis is missed in early childhood and therefore, the diagnosis is made after puberty when the patient presents with hematocolpos, hematometra or both. When this happens, the patient may present with unlikely symptoms like urinary retention or bowel obstruction or both. Rarely, a neglected case can even present with multiple complications like acute urinary retention and large protruding introital mass with multiple ulcerations, as happened in our case. Here we discuss case of a 15 years old girl with imperforate hymen and presented with history of lower abdominal pain and distension associated with acute urinary retention. She was treated by hymenectomy and improved dramatically and was discharged on the 6th day post operatively. This case report is presented to address the clinicians regarding the possibility of imperforate hymen with hematocolpos as a differential diagnosis in adolescent girls, particularly those who have not started having their menses in their teens and present with acute urinary retention, so that their external genitalia are carefully examined to exclude the possibility of imperforate hymen as a cause of acute urinary retention due to the hematocolpos.

Keywords: Hematocolpos, Imperforated hymen, Acute urinary retention.

Introduction

Hematocolpos is a rare condition caused by the obstruction of menstrual blood flow in genital outflow tract anomalies. The most common cause is the imperforate hymen with an incidence of 1:1000 to 1:16,000.[1] The presentation of imperforate hymen may be challenging in some cases such that the diagnosis may initially be missed. Developing hematocolpos may cause acute urinary retention,[2,3] abdominal pain,[4] distension, protruding introital mass, lower abdominal mass and constipation[5]. We, here are going to discuss a neglected case of 15 years old girl who presented with multiple complications of hematocolpos.

Case Report

A 15 year old girl presented in emergency department with acute urinary retention for about 24 hrs along with pain in abdomen. For past one month, patient had been experiencing increasing abdominal distention, difficulty in passing urine and continuous pain in lower abdomen. The patient had not attained menarche yet and on detailed history, she revealed that she was having cyclical pain in abdomen for approx one year. On examination, patient was in agony, but afebrile, PR- 110 bpm, BP- 110/70 mm Hg, mild pallor was present. Secondary sexual characters were well developed with Breast –Tanner 4 & pubic hair tanner of 4. On per abdominal examination, a suprapubic lump which was firm, tender corresponding to 24 weeks size of gravid uterus was felt, lower pole of which could not be reached (fig.1). Along with this, her bladder was distended. After taking informed consent, examination of external genitalia was done which revealed huge bulging at introitus of approx 7x7 cm bluish in color. On careful examination, a distended thickened imperforate hymen with multiple pressure ulcers was found (fig. 2). Per rectal examination revealed markedly distended vagina bulging into the anterior rectal wall. The clinical diagnosis of acute urinary retention secondary to hematocolpos was made. Abdominal sonography revealed markedly distended vagina having heteroechoic fluid collection with normal nulliparous size uterus and adnexa pushed up. Aseptic catheterization was done and 800 ml of urine was drained. Patient was planned for hymenectomy with antibiotic coverage. A cruciate incision was given in hymen and approximately 1800 ml of highly viscous chocolate colored altered blood was drained out. Redundant necrotic & ulcerated hymenal flap was excised along with eversion of cut edges. Patient had remarkable recovery and was discharged from hospital on 6th post- operative day. She is presently in follow- up and is having normal menstrual cycles.

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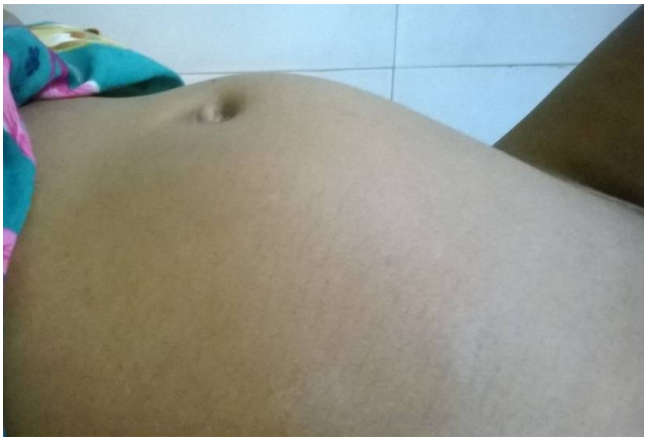

Figure 1.Suprapubic lump of approx. 24 weeks gestation in patient of hematocolpos

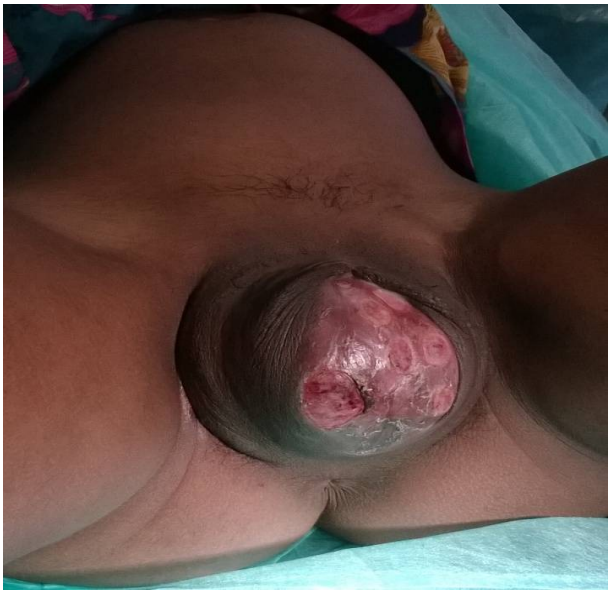

Figure 2.Huge introital mass (hematocolpos) with bluish discoloration with necrotic ulcers

Discussion

Normal vaginal development requires the fusion of components that are derived from two embryologic structures, the mesodermal Müllerian ducts above and the endodermal urogenital sinus (UGS) below. The upper half of the vagina develops from the Müllerian ducts while the lower half develops from the UGS. This is normally followed by canalization to form a normal patent vagina. The hymen represents the junction of the sino- vaginal bulbs with the UGS; hence it is formed from the endoderm of the urogenital sinus epithelium.[6] By the fifth month of gestation, the canalization of the vagina is complete while the hymen usually ruptures (perforates) before or shortly after birth and remains as a thin mucous membrane.[6] An imperforate hymen therefore, results when there is failure of the tissues of the endoderm of the urogenital sinus to completely canalize. Some cases are recognized at birth because of muco-colpus accumulation but most of the girls present at puberty. The severity ranges from the isolated imperforate hymen to the complete vaginal atresia with skeletal and urinary abnormalities. This makes ultrasound scanning of the kidneys and ureters necessary when imperforate hymen is suspected.

The diagnosis of imperforate hymen may be reached at birth from a thorough clinical examination or in early childhood when the little girl presents with mucocolpos or hydrocolpos, but more frequently the diagnosis is made at puberty when the girl presents with hematocolpos or hematometra or both.[6] The symptoms arise mainly from accumulation of the menstrual blood flow into the vagina (Hematocolpos) uterus (Hematometra) tubes (hematosalpinx) and in neglected cases in the peritoneal cavity (hemoperitoneum).

Distension of the vagina leads to stretching and obstruction of the urethra because of its very close anatomic relationship with the anterior vaginal wall.[7] Classical features are cyclical pain, lower abdominal tenderness with a pelvic mass, associated with a bluish bulging at introitus. Per rectal examination reveals an extrinsic mass anteriorly corresponding to the distended vagina. Thorough pelvic examination in patients with imperforate hymen with hematocolpos and/or hematometra with its obstructive symptoms are sufficient to make the diagnosis though imagining studies may add value. Ultrasound is a good diagnostic tool but MRI may be employed in complicated cases to pin point the areas of collection.[6] When ultrasound is chosen, the rectal route is preferred as it provides better visualization.[6] The diagnosis of imperforated hymen can be made by the findings on USG of a cystic pelvic mass representing fluid distended vagina and uterus (hematometrocolpos). The content of the cystic mass may be homogeneous dense fluid or heterogeneous content with blood clots or infection.[8]

Differential diagnosis includes:[7]

a) Conditions that cause obstruction of the female genital tract such as labia adhesions, hymenal atresia, transverse vaginal septum, vaginal agenesis or atresia.
b) Conditions that present as protruding introital masses such as epithelial inclusion cysts, embryonic rhabdomyosarcomas, urethral prolapse, prolapsing ectopic ureteroceles etc.

The management is to ensure drainage of the hematocolpos by means of a cruciate incision of the imperforate hymen under aseptic conditions. The vaginal mucosa should be sutured to the introital edge to avoid adhesions and stenosis.[2,9] Carbon dioxide laser has also been used for the hymenal incision. During decompression, a surgeon should not apply pressure externally on the uterus because of the possibility of reverse blood flow into the ovarian tubes thus leading to endometriosis and formation of adhesions into the tubes' lumen and infertility.[2] The genital tract returns to its normal dimensions after a period of 1–6 months.[2,3]

On reviewing the literature, Anslem et al., Chang et al., Ipyana et al., Pataulious et al, and Shamsuddin et al., have reported cases of adolescent girls presenting as acute urinary retention secondary to hematocolpos. There are reports by Kumar et al. and Wang et al. where adolescent girls presented as acute abdomen and constipation secondary to hematocolpos. The management remains the same drainage of hematocolpos by hymenectomy. In our case, as a result of ignorance, delay in seeking treatment, and late diagnosis due to non examination of genitalia earlier, the patient presented with multiple complications but once the diagnosis was made, simple hymenectomy corrected the malformation and patient had miraculous recovery.

Conclusion

In conclusion, besides reporting this rare presentation of neglected hematocolpos as acute abdomen, urinary retention, supra- pubic lump and huge introital mass, we would like to emphasize that in pubertal females, inspection of the external genitalia, & pelvic examination should not be missed.

Conflict of Interest: Nil

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