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Case Report

Imperforated hymen, a rare cause of acute urinary retention: a case report

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ABSTRACT

A 12-year-old pre-menarchal girl presented to our emergency department with acute urinary retention for last eight hours. She admitted having difficulty in micturition for last one month. She denied any other significant past medical or surgical history. During per urethral catheterization a non-tender lump which used to increase on Valsalva manoeuvre was noted in the perineum. Abdominal ultrasonography and magnetic resonance imaging (MRI) showed a large haematocolpos compressing the urethra. She underwent hymenotomy with evacuation of collected menstrual blood. Post procedure recovery was uneventful and she was able to pass urine with normal stream subsequently.

Keywords: Imperforate hymen, Haematocolpos, Urinary retention

INTRODUCTION

Acute urinary retention (AUR) is an uncommon clinical presentation in childhood. The usual causes being: calculus disease, infectious conditions, neurogenic bladder and rarely due to congenital conditions like urethral valve or external urethral compressions from conditions like haematocolpos and sacroccocygeal teratoma.[1]

METHODS

This 12 year old pre-menarchal girl presented to emergency department with inability to pass urine for last eight hours associated with suprapubic pain. On enquiry she gave history of increased frequency and difficulty in micturition for last one month. There was no history of bowel abnormality, neurological/psychological illness in the past. Her birth history and developmental history were unremarkable. On abdominal examination she was found to have a palpable urinary bladder. During per urethral catheterization a normal external urethral opening and a bluish colour bulge with a covering membrane over the vagina was noted which exaggerated on performing Valsalva manoeuvre (Figure 1). After perurethral catheterisation under aseptic conditions using 10 fr Foleys catheter 1000 cc clear urine was drained. Her laboratory parameter in form of complete haemogram, renal function test, urine routine examination and culture were normal. Ultrasonography (USG) showed an oval shaped collection with echogenic floaters within measuring 10.3×5.7×6.7 cm in the region of the vagina suggestive of possible haematocolpos (Figure 2). Magnetic resonance imaging (MRI) of abdomen and pelvis reported distended fluid filled vagina with sediments of varying signal intensity with abrupt narrowing at distal end with no evidence of transverse vaginal septum also suggestive of haematocolpos (Figure 3). A diagnosis of imperforate hymen with haematocolpos was made. Under general anaesthesia, a cruciate incision was made in the membrane (hymenectomy) which drained approximately 300 cc of collected chocolate coloured blood passively, suggestive of menstrual products (Figure 4).

She had an uneventful postoperative (post op) period and catheter was removed on 1st post op day. She was discharged on 2nd post op day. She has since then remained asymptomatic and has been passing urine without any difficulty. She also reported an onset of

normal menstrual flow after about a month on her follow up visit.

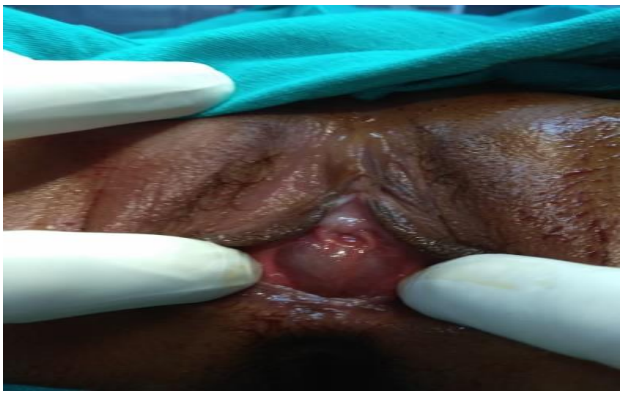

Figure 1: Examination in lithotomy position revealed normal external urethral opening and a bluish colour bulge with a covering membrane over the vagina which exaggerated on valsalva maneuver.

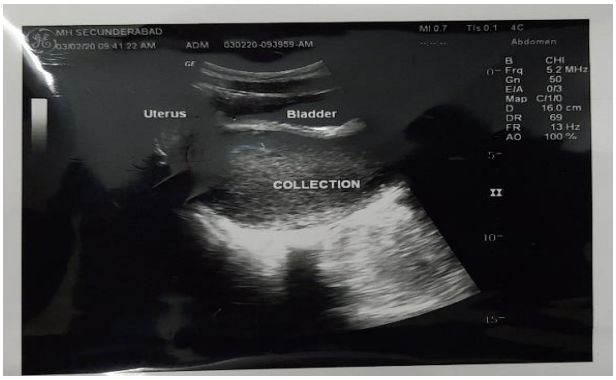

Figure 2: Trans-abdominal ultrasound picture showing an oval shaped collection with echogenic floaters within measuring 10.3×5.7×6.7 cm in the region of the vagina suggestive of haematocolpos.

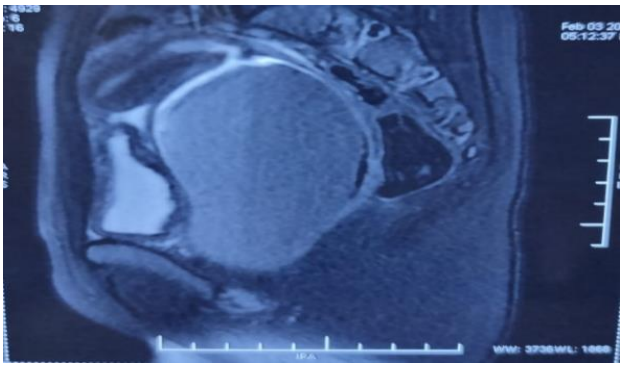

Figure 3: Sagittal section of MRI abdomen and pelvis showing the size of the uterus with a fluid density compatible with a haematocolpos measuring 121 mm cranio-caudal length, with compression of the rectum posteriorly and urinary bladder anteriorly.

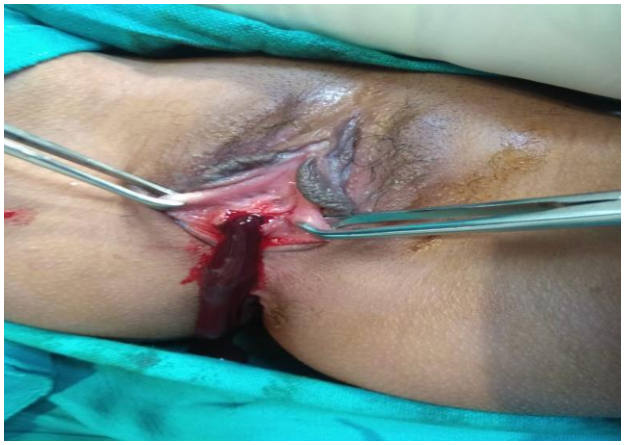

Figure 4: Intra operative picture showing passively draining chocolate coloured blood suggestive of menstrual products after performing cruciate hymenotomy.

DISCUSSION

Hymen represents a vestigial membrane at the junction between the sinovaginal bulb and urogenital sinus. Normally during 8th week of intrauterine life it is destined to rupture partially resulting in establishment of connection between the vaginal lumen and exterior. Failure to achieve this results in non-canalization of the vaginal plate and a condition called imperforate hymen.[2]

Imperforate hymen is the most common obstructive anomaly of the female genital tract with a reported incidence of one in 1000-10,000 girls.[3] The condition most commonly occurs sporadically, however some reports of familial occurrences have been noted.[4] Imperforate hymen is usually an isolated finding, but occasionally is known to occur in syndromes like McKusick-Kaufman syndrome, Bardet-Biedl syndrome, Mullerian dysgenesis syndrome and Peter plus syndrome.[5]

Mostly imperforated hymen are incidentally detected during examination but when symptomatic, patients can have varied clinical presentation like primary amenorrhea, lump abdomen due to hydrometrocolpos/hematometra, cyclical lower abdominal pain, tenesmus/constipation, urinary tract infection, obstructive uropathy, acute kidney injury or rarely with urinary retention.[6]

Proper history, physical examination in lithotomy position and judicious use of imaging in form of ultrasound, MRI or contrast enhance computer tomography clinches the diagnosis in non-syndromic cases. A bulge noted in perineum in relation to vagina which protrudes on performing Valsalva manoeuvre differentiates this condition from transverse vaginal septum which can also have similar presentation. Endoscopy, laparoscopy, echocardiography, karyotype, and infantogram prove useful adjunct in case where syndromic association are suspected.[7,8]

The management includes performing a hymenectomy/hymenotomy under aseptic condition with aim to ensure drainage of the vaginal and uterine contents externally. Timing and types of procedure depends on age, symptoms, associated urogenital anomaly, hymen function, and ethical issues such as situations when virginity-sparing is a requirement.[9] Various types of hymenotomy includes: cruciate incision (as performed in our case), hymen trimming and marsupialization with vaginal epithelium. Central circular hymenectomy is an option in situations where defloration is an issue as it helps maintain an intact hymen annularly.[10]

CONCLUSION

Imperforate hymen, though being the most common congenital anomaly of female genital tract represents a rare cause of acute urinary retention in adolescent girls. Its possibility of existence must always be kept in mind for every pre-pubertal female patient presenting with abdominal pain or acute urinary retention. Hymenotomy, a simple surgical procedure is all that needed for the treatment of these patients.

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REFERENCES

1. Agarwal BK, Agarwal N. Acute urinary retention in children. Int Surg J. 2017;4(5):1610-3.
2. Basaran M, Usal D, Aydemir C. Hymen sparing surgery for imperforate hymen: case reports and review of literature. J Pediatr Adolesc Gynecol. 2009;22:61-4.
3. Lausten-Thomsen MJ, Mogensen H. Hymen imperforatus with atypical symptom presentation. Ugeskr Laeger. 2007;169:523-4.
4. Sakalkale R, Samarakkody U. Familial occurrence of imperforate hymen. J Pediatr Adolesc Gynecol. 2005;18:427-9.
5. Ramareddy RS, Kumar A, Alladi A. Imperforate Hymen: Varied Presentation, New Associations, and Management. J Indian Assoc Pediatr Surg. 2017;22(4):207-10.
6. Mou JW, Tang PM, Chan KW, Tam YH, Lee KH. Imperforate hymen: cause of lower abdominal pain in teenage girls. Singapore Med J. 2009;50:378-9.
7. Acién P, Acién MI. The history of female genital tract malformation classifications and proposal of an updated system. Hum Reprod Update. 2011;17:693-705.
8. Hamed ST, Rahman RWA, Desouky WR. An integrated imaging approach for diagnosis of cervico-vaginal outflow defects and associated genital anomalies. Egypt J Radiol Nucl Med. 2015;46:1249-6.
9. Chang JW, Yang LY, Wang HH, Wang JK, Tiu CM. Acute urinary retention as the presentation of imperforate hymen. J Chin Med Assoc. 2007;70:559-61.
10. Temizkan O, Kucur SK, Agar S, Gözükara I, Akyol A, Davas I. Virginity sparing surgery for imperforate hymen: Report of two cases and review of literature. J Turk Ger Gynecol Assoc. 2012;13:278-80.

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