

Picture Story

A rare cause of acute urinary retention in adolescents: imperforate hymen and haematocolpos

*P M A S Senevirathna¹, I G K R Ilukpitiya²

Sri Lanka Journal of Child Health, 2024; 53(2): 184-185

DOI: <https://doi.org/10.4038/sljch.v53i2.10911>

(Keywords: Acute urinary retention, Adolescence, Haematocolpos, Imperforate hymen)

Introduction

Imperforate hymen is an obstructive abnormality that can occur in the female genital tract due to failed embryologic canalization of the most caudal portion of the vaginal plate at its juncture with the urogenital sinus¹. In adolescents, acute urinary retention is rare and is usually due to an obstructing pelvic or perineal mass². Haematocolpos is one reason which leads to distension of the vagina and stretching and lengthening of the urethra. We report a 12-year-old girl who was admitted with sudden acute urinary retention and was found to have haematocolpos on abdominal ultrasonography, which led to the diagnosis of imperforate hymen.

Case report

A 12-year-old girl presented to the base hospital emergency department with a 12-hour history of acute urinary retention associated with suprapubic pain. There was no history of vomiting, jaundice, oedema, haematuria, dysuria or abdominal trauma. She has not attained menarche yet but she has had cyclical abdominal cramping pains for the last 3 months. On examination, her abdomen was moderately distended with suprapubic tenderness. Her bladder was palpable. On external genitalia examination, a non-tender bluish-grey bulge was noted posterior to the urethra (Figure 1). Neurological examination was normal.

Her renal function tests were normal and urinary pregnancy test was negative. Urinary bladder catheterization led to passage of 800 ml of urine that relieved her of the suprapubic pain. An ultrasound scan of the abdomen showed a haematocolpos like mass lying posterior to the bladder, and lying immediately inferior to the uterus (Figure 2). No other abnormal findings were detected.

Appearances were consistent with a grossly distended uterus filled with menstrual products. Gynaecological opinion was obtained and subsequently she underwent a hymenotomy using a cruciate incision with drainage of

haematocolpos. She had no urinary complaints postoperatively and thereafter follow-up was arranged.



Figure 1: Showing a bluish-grey bulge posterior to the urethra

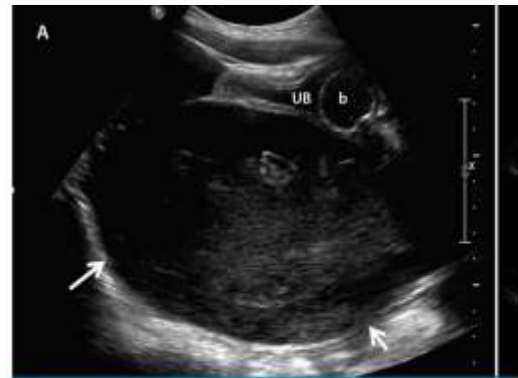


Figure 2: Sagittal pelvic ultrasonography image showing huge cystic lesion (arrows) with internal hyperechoic material compressing collapsed urinary bladder (UB) anteriorly. Balloon (b) of Foley catheter in urinary bladder is also seen

Discussion

The incidence of imperforate hymen is 1 in 1000 to 1 in 2000 women^{3,4,5}. Imperforate hymen mostly presents with amenorrhea and cyclical abdominal or pelvic pain around the age of menarche. If the accumulation of blood and cellular debris is large, it can compress the urethra and bladder, thereby giving rise to symptoms of urinary tract obstruction such as dysuria, urinary frequency and feelings of incomplete voiding which can be mistaken as

¹Acting Consultant Paediatrician, ²Paediatric Medical Officer, Base Hospital, Dehiathakandiya, Sri Lanka

*Correspondence: ashan.senevirathna@yahoo.com



<https://orcid.org/0000-0002-8576-360X>

(Received on 19 December 2023; Accepted after revision on 19 January 2024)

The authors declare that there are no conflicts of interest
Personal funding was used for the project.

Open Access Article published under the Creative Commons

Attribution CC-BY  License

symptoms of urinary tract infection⁶. However, acute urinary retention is rare in patients with imperforate hymen⁷.

Menarche typically occurs within 2–3 years after thelarche (breast budding) at Tanner stage IV breast development⁸. Thus, imperforate hymen should be considered in all adolescent girls with breast development of at least Tanner stage III, complaining of cyclical pelvic pain, back pain or urinary symptoms and who have not attained menarche. Early recognition and treatment are required to prevent long-term complications of endometriosis and infertility⁹.

References

1. Mou JW, Tang PM, Chan KW, Tam YH, Lee KH. Imperforate hymen: cause of lower abdominal pain in teenage girls. *Singapore Medical Journal* 2009; **50**: 378–9.
2. Lausten-Thomsen MJ, Mogensen H. Hymen imperforation with atypical symptom presentation. *Ugeskr Laeger* 2007; **169**: 523–4.
3. ASRM Practice Committee. Current evaluation of amenorrhoea. *Fertility and Sterility* 2008; **90**(3): S219–25.
<https://doi.org/10.1016/j.fertnstert.2008.08.038>
PMid: 19007635
4. Dietrich JE, Millar DM, Quint EH. Obstructive reproductive tract anomalies. *Journal of Pediatric and Adolescent Gynecology* 2014; **27**(6): 396–402.
<https://doi.org/10.1016/j.jpog.2014.07.001>
5. Grimstad F, Strickland J, Dowlut-McElroy T. Management and prevention of postoperative complications in a neonate with a symptomatic imperforate hymen. *Journal of Pediatric and Adolescent Gynecology* 2019; **32**(4): 429–31.
<https://doi.org/10.1016/j.jpog.2019.04.003>
PMid: 31029601
6. Abraham C. Imperforate hymen causing haematocolpos and urinary retention. *Journal of Emergency Medicine* 2019; **57**(2): 238–40.
<https://doi.org/10.1016/j.jemermed.2019.03.014>
PMid: 31023636
7. Patoulas I, Prodromou K, Kallergis K, Koutsoumis G. Acute urinary retention due to haematocolpos: Report of two cases. *Journal of Pediatric Surgery Case Reports* 2013; **1**(8): 189–91.
<https://doi.org/10.1016/j.epsc.2013.05.016>
8. The American College of Obstetricians and Gynecologists. Committee opinion summary menstruation in girls and adolescents: Using the menstrual cycle as a vital sign. *Obstetrics and Gynecology* 2015; **126**(640): 691–2.
<https://doi.org/10.1097/AOG.00000000000001210>
PMid: 26595581
9. Ayrim A, Gözdemir E, Turhan N, Duvan CI, Kafail H. Acute urinary retention associated with an imperforate hymen and haematocolpos. *Gynecology Obstetrics and Reproductive Medicine* 2009; **15**(2): 105–7.