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

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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 sinus. In adolescents, acute urinary retention is rare and is usually due to an obstructing pelvic or perineal mass. 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.

Discussion

The incidence of imperforate hymen is 1 in 1000 to 1 in 2000 women. 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
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Symptoms of urinary tract infection. However, acute urinary retention is rare in patients with imperforate hymen. Menarche typically occurs within 2–3 years after thelarche (breast budding) at Tanner stage IV breast development. 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 infertility.

**References**