

# CASE REPORT

## Acute Urinary Retention due to Hematocolpos

Inshal Akram<sup>1</sup>, Saba Ijaz<sup>2</sup>, Kinza Alam<sup>3</sup>, Afnan Rizwan<sup>4</sup>, Mehreena Zammarrud<sup>5</sup>

<sup>1&2</sup> Student, 4th year MBBS, Islamabad Medical and Dental College

<sup>3</sup> Professor, Department of Gynaecology, Akbar Niazi Teaching Hospital Islamabad.

<sup>4&5</sup> Assistant Professor, Department of Gynaecology, Akbar Niazi Teaching Hospital Islamabad

### ABSTRACT

Imperforate hymen is an uncommon genital tract anomaly which has an incidence of 1 in 2000 females. Imperforate hymen can present as hematocolpos after menarche and has an incidence of 0.14% or acute urinary retention which is a very rare presentation of hematocolpos with less than 10 reported cases in literature. Here we present a case of acute urinary retention secondary to imperforate hymen and diagnosed with hematocolpos in a 14 year old girl resident of barakahu

**Key Words:** Acute urinary retention, Hematocolpos, Imperforate hymen,

### Introduction

Although, acute urinary retention is frequently seen in men, it is a rare occurrence in females. This is because of their shorter urethra and particular anatomic relationships. Massive hematocolpos subsequent to imperforate hymen is not a common cause of acute urinary retention, in teenaged girls.1 Urinary retention, a rare symptom in young girls may be caused by mechanical obstruction to the bladder especially in adolescent girls.2 Hematocolpos is an uncommon condition caused by obstruction of menstrual blood outflow, due to an obstructive anomaly of the genital tract, the most common being an imperforate hymen which is a result of failure of urogenital sinus endoderm to completely canalize and has an incidence of 0.01% to 0.05%. This sometimes presents as a pelvic mass that compresses the bladder causing acute urinary retention which is a very rare presentation.3

### Case Report

A 14-year old resident of Barakahu, presented in OPD of OBS/GYNAE department of Akbar Niazi Teaching Hospital (ANTH) on 21/1/19 with the complaint of urinary retention and suprapubic pain for the past 3 days. There was no history of weight gain, hirsutism, breast discharge, headache, vomiting, syncopal attack, drug intake, lethargy, stress, vigorous exercise, head surgery, trauma or radiation. There was no significant medical and surgical history. Abdominopelvic ultrasound was done and kidneys, ureter & bladder were all normal. Uterus and ovaries were also normal in size and shape. On physical examination, secondary sexual characteristics were developed, breast were fully developed, both axillary and pubic hair were

present which were according to Tanner stage III. On local examination, vulva and external genitalia were of female type with well-developed pubic hair. On palpation, no ectopic glands were seen on labia majora.

A thick membrane however was present on separating the labia minora and diagnosis of imperforate hymen was made. Pelvic ultrasonography revealed a dilated and distended vagina containing thick echogenic fluid measuring 6.5 x 8.8 x 11.6 cm.

She was catheterized with an indwelling Foley's catheter and 400ml of straw colored urine was drained. The patient was scheduled for incision and drainage of hematocolpos. In the operation theatre, a small central hymenotomy was performed and 350-400 ml thick clotted menstrual blood was drained. Five sutures were applied at 1, 4, 6, 8 and 11 'o' clock positions to maintain patency. Post-operatively, local analgesic cream and prophylactic oral antibiotics were prescribed.

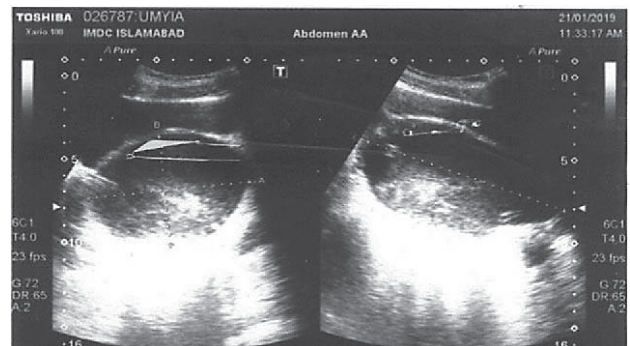


Figure 1: Ultrasound of pelvis showing mass due to hematocolpos

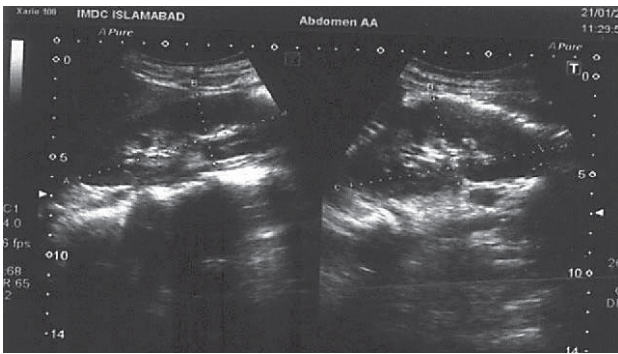


Figure 2: Ultrasound of kidney

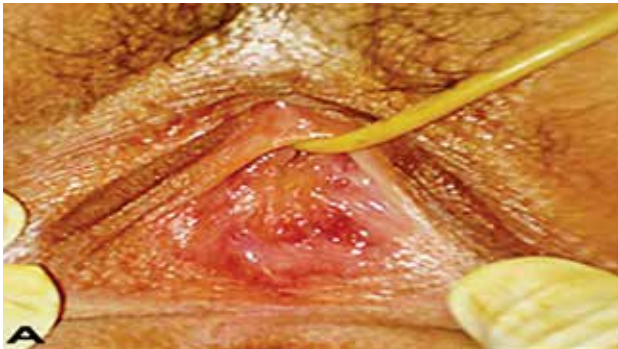


Figure 3: Thick membrane present on separating labia minora needle passed to ensure blood pooled to confirm hematocolpos

She was cleared on 2nd postoperative day after removal of catheter. Follow up after one week revealed that hymenotomy performed was patent. Patient was advised to follow up after next menstruation to confirm vaginal patency.



Figure 4: Longitudinal incision was given and extended in circular direction. Thick clotted menstrual blood 350-400 ml drained.

## Discussion

Imperforate hymen can present as hydrometrocolpos in neonatal period and hematocolpos after menarche, and acute urinary retention due to hematocolpos is a very rare condition occurring in adolescent females. Imperforate hymen results from failure of the endoderm of the urogenital sinus to completely canalize and has an incidence of 0.01% to 0.05%. The role of hymen is not clear but it is thought to involve innate immunity as it provides a physical barrier to

infections. The common presentations of imperforate hymen include;<sup>4</sup> 1) Amenorrhea, which may be primary due to accumulation of blood behind the imperforate hymen or secondary which can occur due to spontaneous closure of previously perforate hymen,<sup>5</sup> 2) recurrent cyclical lower abdominal/pelvic pain due to continued distention of vagina and uterus by accumulation of menstrual blood and low back pain which is referred pain due to irritation of sacral plexus and nerve roots by the distended vagina and uterus.<sup>6</sup> 3) acute retention of urine which may be due to pressure on the bladder by the distended uterus causing angulation at the bladder neck and kinking of the urethra and direct pressure on urethra causing urethral tamponade.<sup>7</sup> 4) Chronic or prolonged urinary retention leading to hydronephrosis, acute bacterial nephritis and renal failure.<sup>8</sup> Physical examination is significant for diagnosis, as imperforate hymen is seen as a thin and blue membrane, although opening is not detected or a thick tissue as observed in atresia.<sup>9</sup>

Imperforate hymen is generally clinically diagnosed and confirmed by ultrasonography. The treatment includes surgical hymenectomy under anesthesia following catheterization with an indwelling Foley's catheter to reestablish vaginal outflow.<sup>10</sup> An X-shaped incision at 2-4-8 and 10 o'clock position is used which has advantages of decreased risk of damage to the urethra, the quadrants of the hymen are then removed, and mucosal margins are estimated with fine delayed-absorbable sutures.<sup>11</sup>

## Conclusion

This case report emphasizes the need to include hematocolpos, though unusual, in differential diagnosis of acute urinary retention, particularly in post pubertal females with primary amenorrhea.

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