

## A Child with Abdominal Pain and Anuria

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The imperforate hymen is an unusual obstructive congenital anomaly that results from the lack of resorption of the hymen membrane.<sup>1</sup> The accumulation of blood with vaginal distension leads to mechanical pressure on the urethra, bladder, uterus, and rectum.<sup>2</sup> Most patients present with recurrent abdominal pain, amenorrhea, and acute urinary retention. It can be diagnosed by an examination of external genitalia.<sup>3</sup> We report a girl with imperforate hymen and presented with abdominal pain and anuria.

A 13-year-old girl was admitted to our pediatric nephrology department with abdominal pain and anuria. She had abdominal pain for 4 days, and she noticed decreased urine output 2 days after the first complaint. Because of these findings, she admitted to the emergency department of a local hospital. The patient, who had adequate urine output after urinary catheterization, was discharged. Her abdominal pain transiently improved. She was admitted to our hospital because her abdominal pain gradually increased for the following 2 days, and it did not respond to painkillers. Also, she had no urine output for the last 12 hours. Her previous history was unremarkable except for mental retardation, and her family history was normal. There was not any known trauma. On physical examination, the patient weight was 38 kg (3-10 p), height was 147 cm (3-10 p), blood pressure was 130/80 mmHg, heart rate was 110/min, and temperature was 36.5 °C. Secondary sex characteristics were normal for her age. The patient appeared irritable, and mobilization was limited because of abdominal pain. Her abdomen was distended and painful, especially in the suprapubic region. On laboratory evaluation, white blood cells were 13 800/mm<sup>3</sup>, platelets were 454 000/mm<sup>3</sup>, and hemoglobin level was 12.3 g/dL. C-reactive protein level was 14.3 mg/L (normal range: 0-5 mg/L). Serum creatinine was 0.36 mg/dL, serum sodium was 138 mmol/L, serum potassium was 4.7 mmol/L, and albumin was 4.8 g/dL. Arterial blood gas was normal. Urine analysis could not be performed because of no urine output. Rectal examination was normal. On examination of the external genitalia, pink-colored protruding imperforate hymen was identified. Transabdominal ultrasound showed a suprapubic homogeneous and urine-filled bladder with right-sided moderate hydronephrosis. The uterus was also distended. Bladder catheterization was performed. Nearly 600 mL of bright yellow urine was obtained. A gynecologist confirmed the diagnosis. Hymenectomy was planned as a curative treatment.

Abdominal pain with inadequate drainage of urine can be caused by intrarenal reasons such as stones, blood clots, tumor, or extrarenal reasons such as neurogenic bladder, nervous system disorders, retroperitoneal fibrosis, congenital genital anomalies, bladder, or cervical cancers.<sup>4</sup>

Diagnosis of imperforated hymen requires a high index of suspicion because a pelvic examination is not always done in small children. Patients are usually asymptomatic until the onset of menarche.<sup>3,5</sup> Magnetic resonance imaging is essential for diagnosing more complicated developmental anomalies such as distal vaginal atresia, cervical atresia, an obstructed uterine horn, or transverse or longitudinal vaginal septum.<sup>6</sup>

Delayed diagnosis may result in hydronephrosis, endometriosis, pelvic adhesions, rupture of hematosalpinx, and spontaneous rupture. The treatment is surgical, typically involves cruciate incisions of the hymen.<sup>7</sup> Clinical findings, including hydronephrosis, resolve after surgery.

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Acute urinary distention was described in approximately 20.3%, and renal failure was detected in 2.1% of the patients with imperforate hymen.<sup>5</sup> Urethral catheterization is the first-line treatment for urine retention. If it is not possible, a suprapubic catheter can be another option for urine drainage.<sup>7</sup>

We wanted to draw attention to the importance of genital examination in case of the diagnosis of imperforate hymen. The clinicians should be kept in mind an imperforate hymen in an adolescent girl with acute urinary retention and should not skip the genital inspection. A careful physical examination can prevent delayed diagnosis, prolonged suffering, and severe complications.

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