

## CASE REPORT

### IMPERFORATE HYMEN PRESENTING AS CHRONIC CONSTIPATION, URINARY RETENTION, AND ABDOMINAL MASS IN AN ADOLESCENT FEMALE

Stacey Ulrich, Puja Dadhania

#### Abstract

Imperforate hymen can usually be detected at any age but is often missed on examination. If not diagnosed and treated, females can have many symptoms and complications. We present a 14 year old female with chronic constipation and acute urinary retention who was found to have an abdominal mass. Genital examination revealed an imperforate hymen. We discuss imperforate hymen pathophysiology, symptoms, examination findings, and the importance of performing a genital examination.

**Keywords:** Imperforate hymen, abdominal mass, constipation, urinary retention

#### Introduction

Imperforate hymen is the most common obstructive anomaly of the female genital tract. (1) It may be detected in the newborn period but often is not diagnosed until puberty. Symptoms may include constipation, urinary retention, abdominal pain or mass. If not diagnosed early, females may have prolonged symptoms and undergo extensive unnecessary testing. Inspection of the female genitalia should be incorporated into routine examination to avoid development of symptoms, delay in diagnosis, and unnecessary diagnostic testing. (2)

#### Case Report

A 14 years old female presented with a 10 month history of constipation, intermittent difficulty in urinating and abdominal pain. She had no dysuria, fever or vomiting. She has not reached menarche. Her mother had menarche at 15 years of age. She had abdominal x-rays done 4 times previously which showed constipation. She was seen by gastroenterology who recommended Polyethylene Glycol 3350 and milk of magnesia. Her abdominal pain has increased over the past 3 days with increased urinary frequency today. Patient noted minimal urine output despite drinking more water. She did have a small bowel movement today with bright red blood noted on the toilet paper. She was taken to an outside emergency department for urinary retention. A bladder scan was performed that showed a distended bladder. A foley's catheter was placed and only a few drops of urine were drained. Urine examination was positive for trace blood and ketones. She was then referred to our facility for urinary retention. On examination, her weight was 41.3kg, blood pressure 121/78 mm of Hg, pulse 97/min, temperature 37.3°C, respiratory rate 20/min, and oxygen saturation was 98%. Physical examination revealed a Tanner stage IV female in moderate discomfort. Abdominal examination revealed a lower abdominal midline mass 6 cm long, extending to 1 cm below her umbilicus. The mass was firm but non-tender. Genital examination showed a bulging blue imperforate hymen. Other systems were normal. General surgery was consulted and she was taken to the operating room. Hymenectomy was performed and

500 cc of retained menses was evacuated. The mass found on examination was her uterus, distended from retained menses blood. On follow up after 3 weeks she was asymptomatic.

#### Discussion

Imperforate hymen is the most common obstructive anomaly of the female genital tract. (1) It results from abnormal or incomplete embryologic development as the urogenital sinus does not canalize. (3) Its frequency varies from 1 case per 1000 to 1 per 10,000 population. (4) It may be detected during the newborn period but often not diagnosed until puberty. In the newborn or early infancy period, a bulging membrane may be seen due to mucocolpos from maternal estrogen stimulation. (1) In adolescence, symptoms include abdominal or low back pain that may be cyclic. Low back pain is postulated to be referred pain from sacral plexus or nerve root irritation. (5) The female will have primary amenorrhea but normal secondary sexual characteristics (1) as was seen in our patient. Urinary pressure, retention, and constipation may occur as a result of mass effect of the blood collection in the uterus and vagina. Acute urinary retention can be the initial sign and over half of patients with hematocolpos present with urinary hesitancy or dysuria. (6,7) Rectal or vaginal pressure may also occur. If hydrosalpinx is present, this can cause tubal rupture and an acute abdomen. (6) Patients may experience protracted symptoms due to delay in diagnosis and over half can be assigned incorrect preliminary diagnosis. (2)

Examination findings include a bulging blue or black membrane at the introitus from hematometocolpos. A pelvic or abdominal mass may also be palpable. Often, if a mass is detected but no genital examination is performed, an unnecessary extensive work up will be initiated to diagnose the mass. Our patient had undergone numerous evaluations and testing over months yet no genital examination was ever performed. Her primary amenorrhea should have also been further evaluated as she had secondary sexual characteristics. Posner recommends inspection of the female genitalia be incorporated into routine examination to avoid development of symptoms, delay in diagnosis, and unnecessary diagnostic testing. (2) Treatment is incision of the membrane, preferably during adolescence when estrogen levels are higher. If surgical interventions are performed during childhood when estrogen levels are low, this may result in scarring and need for subsequent revision. (4)

#### Conclusion

Imperforate hymen should always be part of the differential diagnosis for a female presenting with primary amenorrhea with advanced pubertal development. A genital exam should be considered in an amenorrheic female presenting with abdominal, back, or pelvic symptoms. It is fast, non-invasive and can very easily rule out imperforate hymen.

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**From:** Pediatric Emergency Medicine, Rady Childrens Hospital, San Diego, USA.

**Address for Correspondence:** Dr Stacey Ulrich, Rady Childrens Hospital, 3020 Childrens Way, MC 5075, San Diego, CA 92123, USA.

**Email:** slueker7@hotmail.com



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