



## Imperforate Hymen With An Unusual Presentation In A Prepubertal Child

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### Abstract

Imperforate hymen occurs in 0.1% of all the female new-borns. Here we report a 12 years old child presented with a vague abdominal pain which was unnoticed by the patient and a swelling in the external genitalia was the presenting complaint. Physical examination of the swelling revealed a bulging hymen. A diagnosis of imperforate hymen was made and MRI was done to rule out other Mullerian anomalies, MRI also revealed hematocolpos with hematometra. Hymenectomy was performed and 500 ml of blood was carefully drained. This case is presented for its rarity and unusual presentation.

**Keywords:** Imperforate Hymen, Mullerian Anomalies, Hematocolpos, Hematometra, Hymenectomy

### Introduction

The hymen is defined as a thin sheet of connective tissue membrane lined by stratified squamous epithelium covering the vaginal introitus<sup>1</sup>. During the embryological development of the fetus the hymen is formed after the formation of vaginal canalization<sup>1</sup>. The perforation of hymen occurs before birth or during the neonatal period<sup>1</sup>. Imperforate hymen is defined as the failure of the hymen to rupture spontaneously in the new born after the neonatal period. In most cases the imperforate hymen occurs due to an incomplete canalization of the vagina resulting in complete failure of degeneration of the epithelial cells of the hymen<sup>2</sup>. In some cases, anatomical variations can occur such as partial failure of epithelial cell degeneration also occurs leading to microperforated hymen and other anatomical variants<sup>3</sup>. The other anatomical variants include septate and cribriform variant<sup>3</sup>. Usual clinical presentation of patient with imperforated hymen are with symptoms of pain in the lower abdomen, abdominal mass, constipation and with complaints of

urinary retention<sup>2</sup>. In patients presenting with these symptoms, magnetic resonance imaging (MRI) is the gold standard technique in ruling out the other Mullerian anomalies<sup>3</sup>. After the diagnosis of imperforated hymen is made, surgical intervention is necessary failing which may lead to various complications. This is a case of imperforate hymen in a 12-year-old girl child who presented with swelling in the vaginal introitus.

### Case Report:

A 12 years old girl child brought by the mother with complaints of swelling external genitalia noticed 15 days back. On detailed history patient gave history of vague pain abdomen on and off since 6 months. She also complained of increased frequency of micturition. On general examination child was conscious comfortable, not anaemic, vitals were stable. Breast development was appropriate for the age and it was Tanner's stage 2. Axillary hair and pubic hair were present. Per abdomen examination

revealed suprapubic fullness. Local vulval examination revealed a bulging hymen. A provisional diagnosis of imperforate hymen was made. MRI was done to rule out other associated uterine anomalies. MRI reported as features suggestive of hematocolpos with hematometra [Figure 1]. No associated developmental anomaly in uterus. Final diagnosis was Hematocolpos with Hematometra.

Parents were explained in detail about the condition. After adequate preoperative counselling and Preoperative blood investigations, the child was taken up for surgery. Under short general anesthesia, patient in lithotomy position the bladder was catheterized. Bulging hymen was noted [Figure 2]. A cruciate incision made over the hymen and around 500ml of altered blood was drained. Eversion stitches taken. Post-operative period was uneventful. Patient received IV antibiotics and analgesics and discharged after 24 hours.

## Discussion

Imperforate hymen occurs in 0.1% of all the female newborns and is mostly sporadic. Familial cases have also been reported but compared to the sporadic cases, familial is rare<sup>3</sup>. Imperforate hymen can be detected in the neonatal or childhood period if it is causing any symptoms. These symptoms include urinary retention causing hydronephrosis accompanied by urinary tract infection or urinary tract obstruction resulting in acute lobar nephronia<sup>2</sup>. In an asymptomatic child, imperforate hymen can be missed until the adolescent period. During this adolescent period, post menarche the child becomes symptomatic as there is obstruction of the menstrual blood (cryptomenorrhea) due to the presence of imperforate hymen leading to collection of blood in the vagina (hematocolpos)<sup>2</sup>. In the prepubertal child, a misdiagnosis of labial agglutination or congenital absence of vagina can be made due to imperforate hymen. Imperforate hymen can also present clinically as an incidental finding during a routine physical examination, patient complaints of cyclical pain in the abdomen or back, primary amenorrhea evaluation<sup>3</sup>. Additional to these symptoms the patient may also present with severe urinary obstruction resulting in bilateral hydronephrosis or in some cases it can be a life-threatening acute renal failure<sup>2</sup>. Some anomalies can mimic the presentation of imperforate hymen. Anomalies such as transverse

vaginal septum can be differentiated from imperforate hymen by valsalva maneuver<sup>4</sup>. Other anomalies include periureteral cyst, vaginal agenesis, vaginal botryoid sarcoma and ectopic ureterocoele prolapse<sup>3</sup>. McKusick-Kaufman syndrome is a rare congenital anomaly associated with imperforate hymen<sup>3</sup>. The symptoms of imperforate hymen can also mimic the symptoms of acute appendicitis<sup>5</sup>. Diagnosis of imperforate hymen can be made by a physical examination. Magnetic Resonance Imaging (MRI) stands as a gold standard tool in the evaluation of imperforated hymen as it helps in differentiating with other anomalous conditions that mimic the imperforated hymen<sup>3</sup>. Treatment of imperforate hymen is surgical correction of the hymen called as hymenectomy<sup>2</sup>. If hematocolpos is present, careful drainage of hematocolpos must be done during hymenectomy with special care given to prevent the damage to urethra<sup>2</sup>. Post-surgery the vaginal flora is lost due to alteration in the pH thus making the patient more prone for urinary tract infections. This can be prevented by maintaining a proper aseptic condition before and after the surgery to prevent bacterial growth<sup>2</sup>. Imperforate hymen being one of the rare conditions and can be easily missed at an early stages as it remains asymptomatic. Prompt and appropriate physical genital examination helps to prevent complications due to imperforate hymen. Imperforate hymen must be ruled out in a female child presenting with increased frequency of urine and abdomen pain.

Figure 1 : Radiographic image showing huge hematocolpos (arrow)

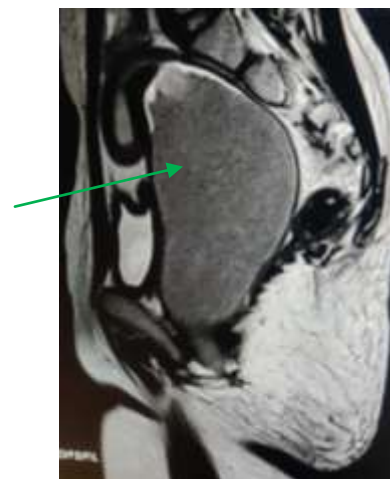


Figure 2: Hematocolpos with imperforate hymen bulging through the introitus



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