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# Imperforate Hymen: A Rare Cause of Abdominopelvic Mass in an Infant

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## ABSTRACT

Symptomatic imperforate hymen is very rare in infants. Here we report a neonate who presented with imperforate hymen with abdominal distension, fever and loose stool. Imaging study showed large thick walled cystic lesion extending from pelvis to abdomen upto epigastric region with bilateral mild hydroureteronephrosis and lower part in between urinary bladder and rectum suggesting hydrometrocolpos. There was spontaneous rupture leading to flow of collection. It leads to spontaneous resolution of the mass which was confirmed with pelvic ultrasound and computed tomography.

**Keywords:** Hydrometrocolpos; hydroureteronephrosis; imperforate hymen

## INTRODUCTION

An imperforate hymen is a congenital disorder where a hymen without an opening completely obstructs the vagina. It is caused by a failure of the hymen to perforate during fetal development. Imperforate hymen is a common genital anomaly in females.[1] It usually presents after the puberty which causes cyclical pain and abdominal distension which is easy to diagnose on clinical examination.[2] Abdominal distension in infants may be due to different causes such as malabsorption syndrome, congestive heart failure, intestinal obstruction, sacrococcygeal teratoma, nephroblastoma, pseudopancreatic cyst, polycystic kidney and ovarian cyst.[3]

Rarely imperforate hymen can be symptomatic in infants. The uterovaginal mucus secretion leads to hydrometrocolpos leading to abdominal distension.[4] We present a case of an infant with hydrometrocolpos with imperforate hymen which resolved spontaneously after getting ruptured itself.

## CASE REPORT

A 5 month old infant presented with history of abdominal distension for one week with fever for 5 days. On examination baby was normal weight and height for age. The baby was passing urine normally but had loose stool. She had fever of 100.8°F. Abdomen was tense and distended. Nothing was significant in local examination. Baby was started on intravenous antibiotics. Renal function test and electrolytes were normal. Abdominal ultrasound showed large abdomino-pelvic cyst originating in the pelvis and reaching to epigastrium with bilateral mild hydroureronephrosis. Contrast enhanced computed tomography (CECT) scan of abdomen and pelvis showed large well defined thick walled cystic lesion with high density content arising from pelvis in midline posterior to urinary bladder and anterior to rectum, superiorly reaching to epigastrium and inferiorly bulging into the perineum with abrupt cut-off in the lower vagina and causing bilateral mild hydroureteronephrosis- likely to be hydrometrocolpos (Figure 1, 2). There was no other congenital malformation like ureterocele, polycystic kidneys or pseudopancreatic cyst.

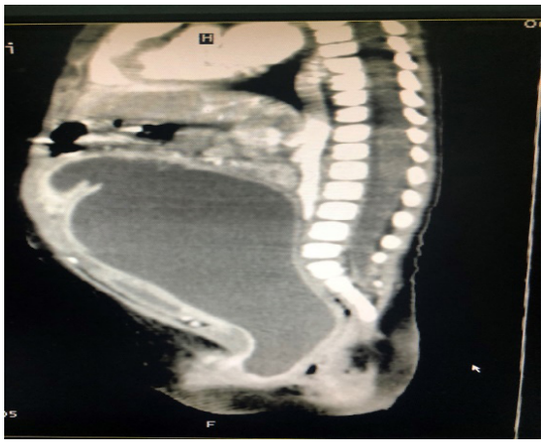

Figure 1. Abdominal CECT showing abdomino-pelvic cyst extending from epigastrium to lower vagina.

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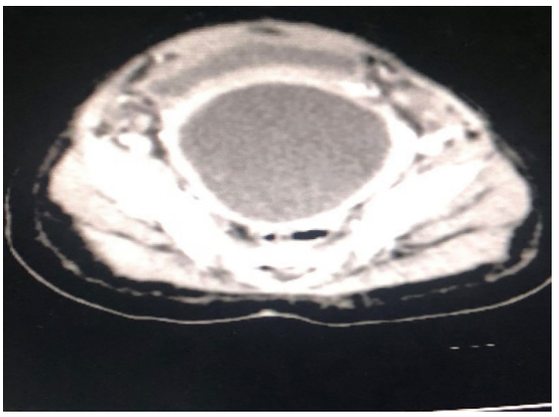

**Figure 2.** Abdominal CECT showing large cyst lying between bladder and rectum.

Next day baby was afebrile. The baby was prepared for the surgery. On the same day she had vaginal discharge. Abdomen became soft. On local examination, there was mucoid discharge slightly mixed with blood, coming per vaginum. The fluid was coming through the torn hymen which was still tense. It was non purulent and non-foul smelling. We sent the fluid for culture and sensitivity. We suspected spontaneous rupture of the hymen as fluid was coming from the torn tense hymen. Pelvic ultrasound was repeated. There was no such cyst on repeat ultrasound examination.

## DISCUSSION

Symptomatic imperforate hymen is rare before puberty. They are usually diagnosed after puberty.[5] The prevalence varies highly between 5.5% to 24.5%.[6] Transverse vaginal septum can be confused with the imperforate hymen.[7] Transverse vaginal septum is a mullerian anomaly whereas imperforate hymen is formed due to abnormality in degeneration of central epithelial cells.[4] There are different types of mullerian anomalies which are formed due to abnormal formation, fusion or resorption of two paramesonephric (mullerian) ducts in fetal life.

Hydrometrocolpos is very rare in infants with incidence of 0.006%.[1] Due to secretion of mucus by the baby's uterovaginal epithelia; there is accumulation of fluid proximal to the obstruction leading to hydrometrocolpos. Most of them are asymptomatic but may lead to obstructive uropathy, urinary retention, urinary tract infection, abdominal distension and constipation.[8] It may lead to sepsis due to urinary tract infection, rupture and peritonitis.[5]

The symptomatic imperforate hymen with hydrometrocolpos is treated with hymenotomy draining the accumulated fluid.[7] In this case there was spontaneous rupture of hymen leading to drainage of fluid. Hydrometrocolpos can be diagnosed prenatally as abdominopelvic cystic mass[9] but in this case all prenatal ultrasounds were normal. The timing of surgery for asymptomatic imperforate hymen is controversial. It can be managed expectantly as there is chance of spontaneous opening.[10] If they are not opened spontaneously, they are managed after puberty with hymenotomy.

## CONCLUSIONS

Even though hydrometrocolpos is rare in infancy, imperforate hymen should be kept in mind. They may present with abdominopelvic mass or urinary retention. They are confirmed with pelvic ultrasound and Computed tomography or Magnetic resonance imaging.

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