



### Case Report

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## Hematocolpos- Ultrasonographic and clinical correlation

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### Abstract

An imperforate hymen is a congenital disorder where a hymen is without an opening and it completely obstructs the vaginal cavity. One of the most frequent malformations of the female genital tract is imperforate hymen. The clinical presentation may be asymptomatic to obstructive symptoms such as primary amenorrhea, abdominal and pelvic pain, constipation, urinary retention and dysuria.

**Keywords:** Hematocolpos, Imperforate hymen, Acute abdomen, Pelvic pain.

### INTRODUCTION

Imperforate hymen is a congenital anomaly of the female genital tract. Female genital tract formation begins at three weeks of gestation and continues throughout the second trimester of pregnancy. The epithelial cells of the central area of the hymenial membrane start to degeneration usually before birth, with a thin border of the fibrous connective tissue membrane persisting around the vaginal opening. An incomplete degeneration process cause hymenial anomalies such as: imperforate, microperforated, cribriform or septate hymen [1]. The absence of the track of mucus at the posterior commissure of the labia majora in newborns or by visualization of the bulging hymen after puberty can help in diagnosis of imperforate hymen [2-4]. The diagnosis is usually delayed till after puberty when it presents with its complications like delayed menarche, cyclic lower abdominal pain, mass, and bulging vaginal membrane. Cyclical abdominal pain and urinary retention, usually presenting between the ages of 13 and 15 years (when menarche occurs) are the commonest symptoms [5, 6]. There is primary amenorrhea but secondary sexual characteristics are well developed. Because the non-perforated hymen obstructs the vaginal outflow, menstrual blood accumulates in the vagina (haematocolpos) and the uterus (haematometra). This may lead to mechanical effects on the urethra, bladder, intestines or pelvic blood vessels which can lead to urinary retention, constipation or pedal edema [7-9]. Irritation of the sacral plexus or nerve roots can cause lower back ache [10].

The definite management of imperforate hymen is surgical excision of the hymen from the base (hymenectomy) and evacuation of the accumulated menstrual blood from the vagina and the uterus [11, 12]. Aim of present study is to evaluate role of sonography in diagnosis of hematocolpos.

### CASE REPORT

A 14-year-old female came to emergency department with acute pain abdomen for 1 month and history of delayed menarche. Vitals were normal with slightly elevated temperature. Signs of thelarche were normal. On examination tenderness in hypogastrium was noted and on per vaginal examination bluish bulging membrane in the vaginal cavity was found. On ultrasound, the vagina was seen distended by anechoic content with debris and fluid levels are seen, the urinary bladder was compressed by the fluid. The kidneys, ureters, uterus and ovaries were found to be normal.

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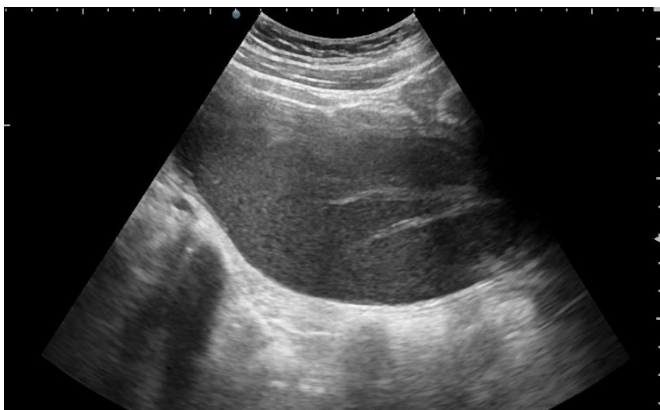
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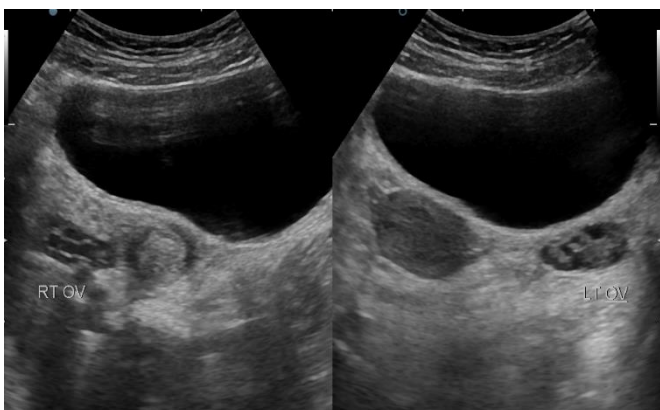
**Figure 1:** Uterus sagittal view showing normal uterine fundus, body and cervix. A large hypoechoic lesion with debris and fluid-fluid level is visualised in vagina suggestive of hematocolpos



**Figure 2:** The approximate size of hematocolpos was found to be 15.1 x 6.2cms



**Figure 3:** Hematocolpos showing internal debris and layering of fluid and hemorrhagic content.



**Figure 4:** Transverse view at the level of uterus showing normal bilateral ovaries and uterus.

## DISCUSSION

Prenatal diagnosis using obstetric ultrasound is difficult in the presence of fetal mucocolpos, hydrocolpos or hydrometrocolpos [13]. Transabdominal and transrectal ultrasounds can be done for accurate diagnosis of imperforate hymen [14]. Antenatal ultrasound showing the bulging imperforate hymen due to the accumulation of hydrocolpos or mucocolpos in the female fetus that occurred in response to maternal oestrogens can help in diagnosis. Abdominal Ultrasonography in a Newborn with hydrometrocolpos will show large, pear-shaped, thick-walled, retrovesical cystic structure with internal echoes in the locations of uterus and vagina [15].

In pubertal age group, on abdominal sonography, the distended uterus or vagina appears as a pear-shaped structure that can have either anechoic or echogenic internal content. When clotted blood is present within the uterus, echoes emanating from the clotted blood can be seen. These are usually mobile when the patient is scanned in various positions [16]. A rectal ultrasonographic approach is excellent method to aid in diagnosis of imperforate hymen when transvaginal approach is not feasible. It is useful because of close proximity to the pelvic organs [17]. However, MRI of the pelvis should be performed for the confirmation of diagnosis, to know the extent of collection and to rule out possible coexisting anatomical variations of urogenital tract [18].

## CONCLUSION

Ultrasonography is highly accurate and specific in diagnosis of hematocolpos and help in timely management.

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