

Case Report

## A CASE OF MASSIVE HEMATOMETRA AND HEMATOCOLPOS WITH IMPERFORATE HYMEN

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### ABSTRACT

**Introduction:** Imperforate hymen is the most common obstructive congenital anomaly of female genital tract which prevents passage of menstrual blood causing hematometra and hematocolpos but its diagnosis is delayed and usually missed in emergency settings.

**Case report:** Here presenting a case of 14 year old girl who presented to emergency department with complaints of cyclical lower abdominal pain and primary amenorrhoea since 2 years and lower abdominal mass since 6 months. Secondary sexual characteristics were normal for her age. A bulging vaginal membrane with bluish hue noted on perineal examination was suggestive of imperforate hymen. The transabdominal ultrasound revealed hematometra, hematocolpos, right sided hydrosalpinx and left renal hydronephrosis. She underwent virginity preserving hymenotomy with drainage of approximately 1000cc menstrual blood.

**Conclusion:** Early diagnosis and treatment can prevent serious complication of imperforate hymen. Imperforate hymen can be diagnosed easily with detailed history and gynaecological examination. Virginity preserving hymenotomy is surgery of choice.

**Keywords:** Hematocolpos, hematometra, hymenotomy, imperforate hymen

### INTRODUCTION

Imperforate hymen, although rare, is the most common obstructive congenital anomaly of the female genital tract, with an incidence of approximately 1 in 2000 females.<sup>1</sup> It occurs when the sinovaginal bulb fails to canalize with rest of vagina. Imperforate hymen prevents passage of blood causing accumulation of menstrual products in the vagina (hematocolpos), uterus (hematometra) and/or fallopian tubes (hematosalpinx).<sup>2</sup> Mostly imperforate hymen is sporadic in nature.<sup>3</sup> The most common age of presentation is around puberty.<sup>4</sup> It typically

presents with delayed menarche, cyclic lower abdominal pain, per abdomen mass and bulging vaginal membrane at the vaginal introitus. Complications of untreated imperforate hymen include pelvic infection with tubo-ovarian abscess, obstructive acute renal failure, non-urological urine retention, peritonitis, endometriosis, mucometrocolpos, constipation, and recurrent urinary tract infection.<sup>5,6</sup> Here we present the case of a young female with delayed menarche with a large palpable abdominal mass as a result of imperforate hymen.

## CASE REPORT

A 14-year-old girl referred to OBGY department of SMS Medical College, Jaipur with history of delayed menarche, cyclical lower abdominal pain for 2 years and lower abdominal mass for 6 months. She had a complaint of increased frequency of micturition since last three months. There was no history of nausea, vomiting, constipation or urinary retention. There was no previous history of trauma or surgery. Her secondary sexual characteristics were normal for her age (Tanner stage III). There was no family history of primary amenorrhea.



Fig 1: Lower abdominal mass secondary to imperforate hymen

On general examination patient was stable, oriented and secondary sexual characteristics were normal for the age. On Per abdominal examination at tender, cystic, dull on percussion lower abdominal mass approximately 22 -24 weeks in size was palpable (Fig.1). On perineal examination, normal external genitalia with a bulging vaginal membrane with bluish hue seen suggestive of imperforate hymen. Her haemoglobin was 9.5, renal function test and all other routine investigations were normal. The transabdominal USG revealed bulky uterus with grossly dilated endometrial and cervical canal with echogenic fluid and maximum width measuring 82 mm. Right sided hydrosalpinx with left kidney moderate hydronephrosis also noted.

The diagnosis of hematometra and hematocolpos secondary to imperforate hymen made and decision of hymenotomy with drainage of hematometra was taken.

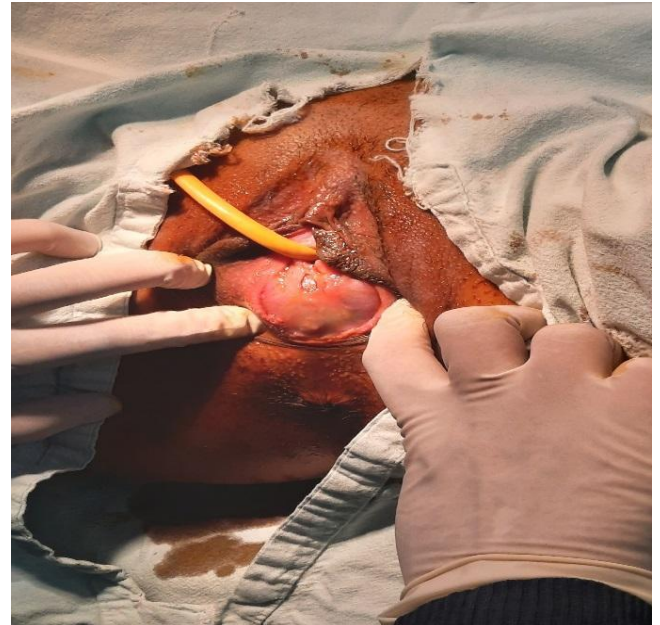


Fig 2: vaginal membrane with bluish hue suggestive of imperforate hymen



Fig 3: Dark coffee colored menstrual blood coming out after applying incision



Fig 4: Approximately 1000 cc drained menstrual blood



Fig 5: Postoperative picture showing disappearance of abdominal mass

IV Antibiotics were given for 2 days and patient was instructed to maintain the perineal hygiene. Postoperative period was uneventful and she was discharged in satisfactory condition after 2 days with oral antibiotics. Follow up after two month revealed patent outflow tract with normal menses.

## DISCUSSION

The hymen is a vestigial membrane at the junction between sinovaginal bulb and urogenital sinus. Normally it ruptures partially at the inferior portion at 8th week of gestation to establish connection between the vaginal lumen and exterior. Complete failure of the inferior end of the

vaginal plate to canalize leads to imperforate hymen.<sup>7</sup> It is an isolated anomaly but rarely can be associated with other female genitourinary tract anomalies or genetic disorders.<sup>4</sup> So we need to rule out other associated mullerian anomalies.

The diagnosis is easy with detailed history and gynaecological examination. Typically, imperforate hymen presents with primary amenorrhea and a cyclic pattern of lower abdominal pain<sup>8</sup>, with or without associated symptoms such as back pain(38%–40%), urine retention (37%–60%)<sup>7,9</sup>, or constipation (27%). It may present as acute abdomen in emergency. So sometimes misdiagnosed as acute appendicitis, peritonitis, urinary tract infection, ovarian torsion etc. This is why thorough genitourinary examination in girls of all ages from birth through the onset of menarche should be performed. If patient or parents refuse for genital examination, imaging studies can greatly help with diagnosis. Ultrasound will show an echogenic fluid accumulation in the vagina that can extend to uterus. In low-resources settings, imaging modalities may not be available.

In a newborn, uterovaginal secretions under influence of maternal estrogen collect in blind vaginal cavity result in hydrocolpos and hydrometra.<sup>4</sup> But, usually, the diagnosis of cases like this is delayed and is discovered near puberty. According to Lui et al mean age of presentation is 12 years.<sup>10</sup> Differential diagnosis of imperforate hymen includes other obstructive reproductive tract anomalies like transverse vaginal septum, vaginal atresia, phimosis of cervix and mucocolpos.<sup>11</sup>

Once diagnosed, the treatment of imperforate hymen is either hymen sparing hymenotomy or non-sparing hymenectomy (excision of the hymenal tissue). The standard surgical procedure is hymenotomy using cruciate, T, plus, or X shaped (at 2-, 4-, 8-, and 10-o'clock positions) incisions and removal of excess hymenal tissue. The outcome of the surgery is excellent and recurrence is rare. Needle aspiration of hematocolpos is discouraged due to the risk of infection and pyocolpos formation. Acar et al. advocated incision and insertion of Foleys catheter as a drain for 14 days for better preservation of the hymen and virginity, but the risk of ascending infection and the discomfort of having *in-situ* Foleys catheter in the young girls

made the procedure unpopular.<sup>12</sup> Preservation of virginity should be taken into serious account, as virginity is cherished by many religions and families. Most girls who want to conceive after surgery usually achieve pregnancy.

## CONCLUSION

Imperforate hymen is although the most common congenital anomaly of female genital outflow tract, but it is rare. The diagnosis is usually missed in emergency settings. History taking and careful gynecological examination should be recommended in premenarchal girls presenting with abdominal pain. Young girls presenting with amenorrhoea and cyclical abdominal pain should be suspected of this condition. Early diagnosis and treatment can prevent serious complications. Virginity-preserving hymenotomy is standard care of choice.

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