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Case Report

Hymenal Atresia-A Rare Congenital Anomaly, Case Report

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Abstract

Imperforate hymen is rare obstructive anomaly of female genital tract. It is associated with complications such as cyclical abdominal pain, urinary retention, abdominopelvic mass. It is a rare female genital tract malformation due to complete failure of inferior end of vaginal plate to canalize acute urinary retention is rare in children. When a young female 12 to16 years comes to hospital with acute retention of urine, abdominal pain, correct clinical history of events and clinical findings can clinch the diagnosis. Presenting herewith a rare case of 12 years female who presented to emergency department with acute retention of urine and was diagnosed as imperforate hymen, hematocolpus and hematometra and was treated with hymenectomy, discharged and has resumed her normal menses.

Keywords: Imperforate Hymen, Acute Urinary Retention

1. Introduction

Acute urinary tract retention is rare in children. This is a rare case report of acute retention of urine as a result of hematocolpus and hematometra in a 12-year-old female. Imperforate hymen is a rare female genital tract malformation due to complete failure of interior end of vaginal plate to canalize incidence of imperforate hymen is 1 in 2000 females [1]. Approx half of these cases will present with urinary retention [2]. Although most common age of presentation is around puberty, the diagnosis in utero and during the newborn period and childhood are also reported [3-7]. Most cases of imperforate hymen are sporadic in nature; however there have been reports of familial cases where both recessive inheritance and dominant inheritance have been shown [8]. The majority of Imperforate hymen present incidentally on physical examination in younger age group. It is treatable and does not cause significant morbidity [9]. The most common age of presentation in peri pubertal age or incidental during newborn period or childhood [5,7]. Imperforate hymen usually presents with cyclical abdominal pain and delayed menstruation, acute retention of urine and rarely appendicitis-like symptom with hemato colpometra [5].

Case Report

A 12-Year-old young girl accompanied by mother reported to Gynecology OPD in May 2023 with complaints of severe pain in lower abdomen for 3 days and inability to pass urine for 1.5 days. There was no vomiting and no change in bowel habit. She and mother reported to have cyclical abdominal cramping pain in lower abdomen in the preceding 3 months and has not yet attained menarche. Her birth history and developmental history was unremarkable. On examination her secondary sexual characteristics were appropriate for the age. Per abdominal examination revealed mass of 20-week size, globular, smooth surface, tender, mobile side to side. Local perineal examination revealed bluish color oval bulge, centrally placed, distal to urethral opening.

Ultrasound abdomen was done from department of radiology which revealed uterus anteverted and upper uterine segment was 3.7 X 2.4 cm with large blood collection noted in cervix, vagina measuring 13.6 X 6 cm. both ovaries were normal.

HEMATOCOLPUS

UTERUS AND HEMATOMA IN THE CERVIX (MARKED BY ARROW)

There was no adenexal mass or free fluid in abdomen and pelvis, liver, spleen, gall bladder, pancreas was normal. Urinary bladder was over distended, and wall thickness was normal. Both kidneys were normal in size and echo texture. Corticomedullary differentiation was maintained and there was no evidence of hydronephrosis, final diagnosis was hematocolpus.

Her diagnosis was discussed with parents and they were counseled regarding treatment. Patient was admitted. Urinary catheter was inserted, and 1000 ml clear urine drained. The patient's suprapubic pain was reduced., consent for surgery taken from parents and preoperative investigation were done. All preoperative investigations were within normal limit. She was posted for hymenectomy and drainage of hematocolpus. Under general anesthesia X shaped / cruciate incision was made through the hymenal membrane at 2, 4, 8 &10 O'clock position after pulling the indwelling foleys catheter. Approximately 700 ml of collected chocolate colored blood was drained passively. The individual quadrants were excised along the lateral walls of vagina, avoiding excision of vagina. The margins of vaginal mucosa were approximated with fine delayed absorbable suture. The procedure was done under ultrasonography guidance. IV antibiotic and injectable analgesic were given.

Post-operative period was uneventful. Patients foleys catheter was removed after 12 hours and was ambulated. She had normal natural drainage of blood from vagina. The patient was discharged on the second post op day on oral antibiotic. Patient came for follow up on day 6 post op and then after one month. She had first normal menstrual cycle. Later the patient came for follow up after 3 months, 6 months and 1 year and is menstruating normally.

2. Discussion

The hymen is a membranous vestige of the junction between the vinovaginal bulbs and the urogenital sinus. It generally becomes patent or perforate during fetal life to establish a connection between the vaginal lumen & perineum. Imperforated hymen is due to complete failure of the interior end of the vaginal plate to canalize [1]. Although most cases occur sporadically, cases of imperforate hymen involving multiple family members have been reported [10,11]. The function of the hymen is not clear but thought to include innate immunity as it provides a physical barrier to infections during the prepubertal period when vaginal immunity is not fully developed. Imperforate hymen is rarely associated with other female genital tract malformations [3,4]. Although some authors have emphasized the need to rule out associated mullerian malformation.

If the hymen is imperforate, mucous & blood from endometrial sloughing gets accumulated in vagina gradually &can cause congenital hydrometrocolpus in intra uterine life though rare & it occurs due to maternal estrogenic stimulation causing utero vaginal secretions filling blind vagina & can be diagnosed through obstetric ultrasound [11,12]. The

diagnosis should be confirmed postnatally. Usually, cases of imperforate hymen usually present as adolescent girl presenting with cyclical lower abdominal pain & not attend menarche. Menstrual blood traps in the vagina behind the imperforate hymen called as hematocolpus creating a bluish bulge at introitus, with cyclical menstruation the vaginal canal becomes distended &cervix may begin to dilate & allow formation of hematometra hematosulphinx. If untreated before puberty can lead to endometriosis due to retrograde bleeding.

2.1 Presentation: The age of presentation is 12 or 11-15 yrs. the presentation of imperforate hymen symptoms is:

❖ Amenorrhea, which may be primary due to accumulation of blood behind imperforate hymen or secondary which can occur due to spontaneous closure of previously perforate hymen [4,5,7]. The later mainly occurs in Mino perforate or stenosed hymen following surgical or sexual trauma where initial light period will be experienced but continuous stenosis leads to complete obstruction &amenorrhea pain.

❖ Recurrent cyclical lower abdominal pain due to distention of vagina & uterus by accumulating menstrual blood [3,7,13]. Some 30% might get low back pain due to referred pain following irritation of sacral plexus nerve roots by distended vagina & uterus.

❖ Obstruction –

• Urinary outflow obstruction its complication (58-60%) [6,14].

• Acute retention of urine due to pressure on bladder by distended uterus causing angulation at bladder neck kinking of urethra direct pressure on the urethra causing urethral tamponade [7,10,15].

• Chronic or prolonged urinary retention leading to hydro uretero nephrosis, acute bacterial nephritis renal failure [11].

• Vaginal outflow obstruction which is seen as a bluish bulge at the introitus [4,11,].

• In chronic cases intestinal obstruction leading to constipation (20-27%) tenesmus [11,16].

• Lympho venous obstruction due to compression of pelvic vein lymphatics can lead to edema of limbs [3,11].

• Mass per abdomen due to distended uterus, vagina bladder [11,14].

• Retrograde menstruation may lead to the development of endometriosis laparoscopy can be performed at the time of excision of an imperforate hymen to detect this [11].

Differential Diagnosis of imperforate hymen includes other obstructive reproductive tract anomalies like lower transverse vaginal septum, imperforate hymen is a clinical diagnosis which can be confirmed by ultrasonography. Treatment includes surgical hymenotomy under anesthesia following catheterization of bladder with an indwelling foleys catheter. An X shaped incision at 2, 4, 8,10 o'clock position is used which has an advantage of decreased risk of urethral injury.

The quadrants of the hymen are then excised the mucosal margins are approximated with fine delayed absorbable suture. After incision allow blood to flow naturally. Avoid giving pressure on the uterus as it can lead to retrograde flow through tubes causing endometriosis tubal adhesions [16]. Needle aspiration of mucocolpus or hematocolpus should be avoided as it can cause infection pyocolpos formation [1]. The outcome of the surgical hymenotomy is good the recurrence is very rare [6].

3. Conclusion

Imperforate hymen is a rare obstructive disease of female genital tract. Surgical treatment provides excellent outcome. Early diagnosis of imperforate hymen is essential for successful treatment and preventing future complications. Careful history taking and examination is important for early diagnosis. Any adolescent/ pubertal girl with abdominal pain this should be suspected.

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