Original Research Paper

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Obstetrics & Gynaecology

"SILENT MENSTRUAL CRISIS: AN UNVEILING OF HAEMATOCOLPOS DUE TO IMPERFORATE HYMEN IN AN ADOLESCENT GIRL"

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ABSTRACT We report the case of a 16-year-old girl presenting with primary amenorrhea and cyclic lower abdominal pain. Examination revealed an imperforate hymen, leading to the diagnosis of haematocolpos. Surgical incision and drainage of the haematocolpos were performed, resulting in symptom resolution and the initiation of regular menstruation.

KEYWORDS : Cryptomenorrhea, Primary Amenorrhea, Imperforate Hymen, Haematocolpos

INTRODUCTION

Primary amenorrhea is a condition where a female of 16 years of age has not attained menarche, irrespective of development of secondary sexual characteristics. Cryptomenorrhea, the hidden accumulation of menstrual blood due to obstructed outflow, often presents as primary amenorrhea in adolescent girls. (8) It can be due to congenital or acquired conditions. (8) Imperforate hymen is a common etiology of cryptomenorrhea, leading to the formation of haematocolpos which can present as varied symptoms and lead to a multitude of complications. Prompt recognition and intervention are crucial to prevent complications and restore normal menstrual function.

Case Report

A 16-year-old girl came to the department of Obstetrics and Gynaecology of Sree Balaji Medical College and Hospital with complaints of severe abdominal pain for 6 months. Pain was cyclical and spasmodic in nature. It was not associated with altered bowel habits or appetite changes. There were no urinary complaints such as urinary retention. Patient also gave a history of not having attained menarche despite development of other secondary sexual characteristics. Patient did not have any other significant medical, surgical or family history. She was admitted in the gynaecology ward for evaluation of the above complaints.

On general examination: Patient was moderately built and well nourished. Vitals such as blood pressure, pulse rate, temperature were within normal range.

On physical examination: Secondary sexual characteristics were well developed with breasts, axillary hair and pubic hair corresponding to Tanner Stage- 4. Abdomen was soft and non-tender and no mass was palpable. No abnormalities were detected in respiratory system and cardiovascular system examination.

On local examination, external genitalia appeared normal. Hymen was intact. A small bulge was noted at the hymen which was exaggerated on eliciting Valsalva maneuver.

Per rectal examination revealed a bulge felt anteriorly with approximate dimensions of **6x6 cm**, with uterus not felt separately and free rectal mucosa.

- Ultrasound whole abdomen imaging revealed a large collection with low level internal echoes seen in the vagina and cervix pushing uterus cranially with features suggestive of haematocolpos due to imperforate hymen or transverse vaginal septum and bilateral polycystic ovaries.
- For further confirmation of diagnosis of haematocolpos and to look for associated hematometra, hematosalpinx and any other associated congenital anomalies of the genito-urinary tract Magnetic Resonance Imaging of the pelvis was done. A large T1 isointense and T2 hypointense collection measuring ~ **9.5 x 8.3 x 17.2 cm**, with volume ~**678 mL** noted within endometrial cavity in lower uterine segment and cervix seen extending up to the vagina.(Images 1&2) Uterus appeared bulky, measuring 14.3 x 6.4 x 4.0 cm with endometrial thickness of 7 mm. Bilateral Ovaries showed polycystic changes.

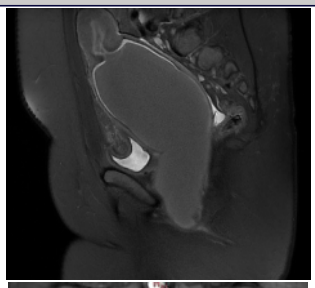


Image 1- Sagittal view

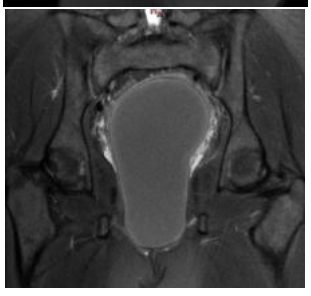
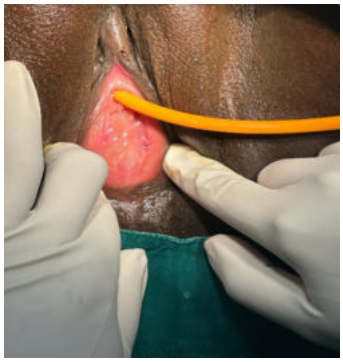


Image 2- Coronal view

After making a diagnosis of cryptomenorrhea due to imperforate hymen(image 3), patient was planned for hymenotomy under spinal anaesthesia, after obtaining informed, written consent. Catherisation of the bladder was done. A cruciate incision was made over center portion of the hymen, which drained approximately 750 mL of thick, tarry menstrual blood.(image 4). Margins were everted by suturing the inner vaginal mucosa to the exterior vestibular mucosa and a vaginal opening was created. (Image 5)

Postoperative period remained uneventful. Intravenous antibiotic cover was given and perineal hygiene maintained. Bladder catheter was removed when patient started ambulating. Patient was discharged after 2 days of observation.

On follow up after 8 weeks, patient had started menstruating regularly with normal flow.



Imperforate Hymen (Image 3)

A cruciate incision made and collected blood was let to drain spontaneously. (Image 4)

Flaps were everted and sutured to create a vaginal opening. (Image 5)

DISCUSSION

The hymen is a thin membrane of stratified squamous epithelium which circumscribes the vaginal introitus(9). During fetal life, hymen becomes patent to establish a normal outflow tract. Hymen provides a physical barrier to infection before puberty when immunity of vagina is not yet fully developed. (1) Absence of establishment of patency of hymen is known as an imperforate hymen. An imperforate hymen occurs in 0.05% of women. (5) Imperforate hymen arises due to defects in vertical fusion between the down growing fused Müllerian ducts and the up growing derivative from the urogenital sinus. (7) This causes obstruction of outflow of menstrual blood leading to its accumulation in the vagina or the uterus. It can rarely be associated with other genito-urinary tract defects and hence, other Mullerian anomalies should be ruled out. Delayed discovery of an imperforate hymen may lead to pain, infections, hydronephrosis and endometriosis with subfertility as a possible consequence. (5)

Imperforate hymen leading to haematocolpos is an important cause of cryptomenorrhea. Clinical suspicion, aided by physical examination and imaging studies, is essential for accurate diagnosis. Patients are usually asymptomatic until onset of menarche after which menstrual blood begins to accumulate in the vagina leading to a spectrum of symptoms constituting hematocolpos, hematometra and hematosalpinx resulting in symptoms such as primary amenorrhea, recurrent cyclical lower abdominal pain, bluish bulge at the vaginal introitus, acute or chronic retention of urine, mass per abdomen, chocolate cyst of ovary due to retrograde menstruation or rarely constipation and intestinal obstruction. (1)

Prompt management in the form of surgical intervention. Typically, a cruciate incision and spontaneous drainage of haematocolpos, ensuring that no external drain or suction inserted in the opening, is the main stay of treatment, providing relief of symptoms and restoration of normal menstruation.

CONCLUSION

This case underscores the significance of recognizing imperforate hymen as a cause of cryptomenorrhea in adolescent girls. The most common presenting symptom is painful cryptomenorrhea. Young adolescent girls presenting with amenorrhea and cyclical abdominal pain should arouse suspicion of this condition. (2) Timely recognition and intervention are imperative to alleviate symptoms, mitigate complications, and optimize reproductive health outcomes in affected individuals.

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