

PRIMARY AMENORRHEA TO URINARY RETENTION: A CASE REPORT OF IMPERFORATE HYMEN, A RARE CONGENITAL CONDITION

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Abstract:

Introduction: Imperforate hymen is a rare congenital condition that occurs in 1 in 1,000 females. In imperforate hymen, the epithelial cells in the central hymenal membrane fail to degenerate, resulting in an intact hymen. **Case Report:** A 14-year-old girl presented with complaints of pain in the genital area and lower abdomen for 2 months, worsening over the past 3 days. She also experienced dysuria and urinary retention for the past 3 days. The patient had never experienced menstruation. Physical examination revealed abdominal distension and suprapubic tenderness. Gynecological examination showed a bulging hymenal membrane. Ultrasound examination revealed hematocolpos. Based on the examination results, the patient was diagnosed with imperforate hymen. A catheter was inserted to manage urinary retention. The patient then underwent a hymenectomy. After the procedure, the patient's symptoms improved, and urinary retention was resolved. **Discussion:** The definitive management for this case is hymenectomy. Urinary retention occurs due to hematocolpos compressing the urinary tract. **Conclusion:** Early and accurate diagnosis in adolescents with primary amenorrhea is crucial to prevent complications.

Keywords: case report, congenital, hymenectomy, imperforate hymen

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Introduction

Hymen is a squamous epithelium thin membrane at the junction between the urogenital sinus and the sinovaginal bulbs (where the Müllerian ducts meet the urogenital sinus) that generally circumscribes the opening of the vagina (Hülsman et al., 2025; Sakhifa et al., 2025). During fetal development, the epithelial cells in the central portion of the hymenal membrane degenerate, leaving a thin layer of mucous membrane at the vaginal introitus (Sakhifa et al., 2025).

In the imperforate hymen, the hymen completely closed due to failure of disintegration of the central cells of the Müllerian eminence that projects into the urogenital (Lee et al., 2019; Surya & Aryasatiani, 2024).

It occurs in 1 in 1,000 female births. It causes an obstruction to the outflow tract that can lead to a buildup of secretions in the vagina behind the hymen (hydrocolpos or mucocolpos) (Sakhifa et al., 2025). Prevalence data on imperforate hymen in Indonesia is still limited because this condition is classified as a rare

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congenital disorder. Imperforate hymen is often asymptomatic and diagnosed at puberty in adolescents when menarche occurs but because there is obstruction to the passage of menstrual blood, it is not apparent (Lee et al., 2019; Sakhifa et al., 2025). The buildup of secretion can cause cyclic pelvic pain and severe complications in other organ system (Lee et al., 2019).

Case Report

A 14-year-old girl presented with complaints of pain in the genital area and lower abdomen for 2 months, worsening over the past 3 days before coming to hospital. She also experienced painful urination (dysuria) and difficulty urinating (urinary retention) for the past 3 days, presenting with small amount of urine output. She also reported to have difficulty in defecating (constipation). The patient did not have fever. No nausea or vomiting. The patient was not married yet and no history of sexual intercourse. She had never experienced her first menstruation. Her breast began to grow at two years ago, she already develops genitals and armpits hair.

Patient is fully conscious (*compos mentis*). Vital signs showed normal blood pressure (118/72 mmHg), respiratory rate (22 per minute), temperature (36.8 Celsius degree), with tachycardia (113 bpm) and visual analogue scale 7-8 for pain. The patient is 145cm in body height and 36.3 kilograms of body weight. The patient was defined as underweight with a body mass index of 17.26. The patient has Tanner 3 of puberty status.

Physical examination revealed abdominal distension and a palpable mass at parasymphysis with tenderness around suprapubic and periumbilical area. External genital examination showed the hymen membrane as a bulging mass with no sign of inflammation. A catheter inserted to manage urinary retention. (Figure 1). After the catheter insertion, the abdominal pain was improved and urine residue was collected. Routine blood checks had no significant findings.



Figure 1. Bulging hymen with inserted catheter

Ultrasonography examination was done later and revealed a hypoechoic fluid-filled mass as hematocolpos (Figure 2). Based on the examination results, the patient was diagnosed with imperforate hymen. The patient then admitted to Department of Obstetrics and Gynecology.

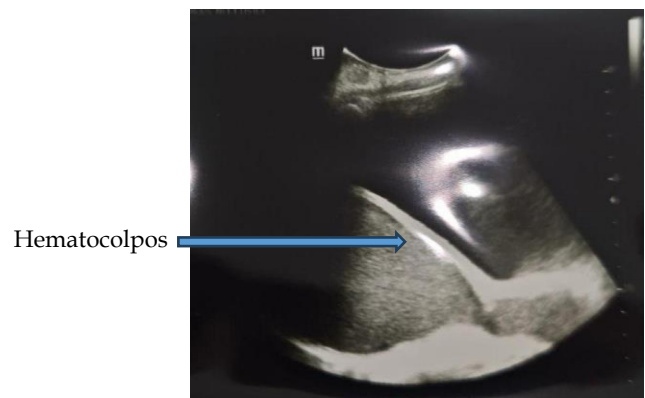


Figure 2. Abdominal Ultrasonography

Later, the patient then underwent a hymenectomy under general anesthesia to (Figure 3). After the procedure, the patient's symptoms improved, and urinary retention was resolved. The patient condition after procedure is good, so the patient is allowed to leaving the hospital one day after the procedure. Analgesic are prescribed.

Five days later, the patients come to outpatient clinic and there is no any complaints or symptoms. The wound had showed no signs of inflammation or infection. Common complication after surgery include scarring or the hymen reattachment. Therefore, monitoring is necessary for 4-6 weeks to assess the success of the therapy.

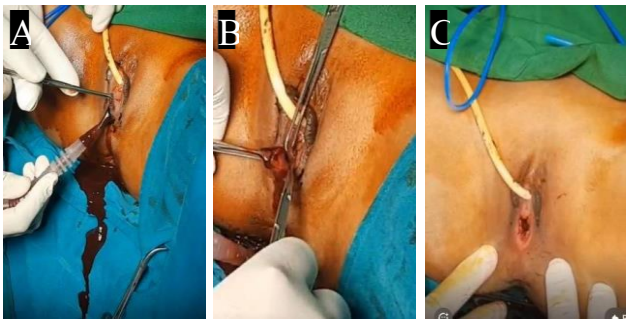


Figure 3. (A, B) The evacuation process of the accumulation of blood behind the hymen by hymenectomy. (C) Post-procedure

Discussion

The hymen consists of fibrous connective tissue with elastic fibers and glycogen granules on the vaginal and vulvar surfaces (Lee et al., 2019). During fetal development, the fetal hymen forms from the growth of the sinovaginal bulbs (where the Müllerian ducts meet the urogenital sinus) in the fifth month of gestation, when the vaginal canalization is finished. The epithelial cells in the central portion of the hymenal membrane degenerate typically at approximately 22 weeks of gestation, leaving a thin rim of mucous membrane at the vaginal introitus (Tedyanto et al., 2024). In the imperforate hymen, the hymen completely closed due to failure of disintegration of the central cells of the Müllerian eminence that projects into the urogenital (Lee et al., 2019; Surya & Aryasatiani, 2024).

Even if the case is rare, imperforate hymen is considered the most common congenital malformation of the female genital tract (Enes et al., 2017). If not identified at birth, an imperforate hymen is often asymptomatic and accidentally diagnosed at puberty in adolescents experiencing menarche (Kalaivani et al., 2021). Menarche occurs at the appropriate time, but, because there is obstruction to the passage of menstrual blood, it is not apparent (Canelón & Boland, 2020). It causes an obstruction to the outflow tract that can lead to a buildup of secretions in the vagina behind the hymen (Muyisa et al., 2025). Delays in diagnosis could cause mild to severe complications in various organs systems.

The chief complaints are periodic lower abdominal pain, which may be continuous, primary amenorrhea and urinary symptoms (Gaspari et al., 2023). As reported in this case, the patient had primary amenorrhea, abdominal pain, and urine retention. The symptoms are due to accumulation of menstrual blood in the vagina (hematocolpos) or uterine cavities (hematometra) or both (hematocolpometa) that can

create a pelvic mass and presents with pain in lower abdomen and a bulging bluish-appearing perineal mass (Gaspari et al., 2023; Shahab et al., 2021). This mass can cause mechanical obstruction of the urinary tract and can lead to urinary retention, hydronephrosis, or acute renal injury. Urinary retention due to compression of bladder outlet by the distended vaginal and uterine structures. (Gaspari et al., 2023). As in this case, hematocolpos is identified in ultrasonography examination.

After diagnosed with imperforate hymen, the patient was scheduled for hymenectomy with general anesthesia. Definitive management of imperforate hymen is hymenectomy by incision of the hymen drainage of accumulated blood in vagina behind the hymen, and excision of hymenal tissue to form a patent outlet. A neglected case can increase morbidity, infection, endometriosis, subfertility, kidney failure risks (Jang et al., 2021; Lee et al., 2019). Other management should be given is antibiotic (Tedyanto et al., 2024; Kalaivani et al., 2021).

The prognosis of patients with imperforate hymen after corrective action is generally good. The symptoms are resolved after successful treatment. A follow-up to women who underwent hymenectomy reported no sexual dysfunction and even successfully giving live birth (Jang et al., 2021).

Conclusion

The knowledge about imperforate hymen is necessary as a patient may present to emergency department with complaint of abdominal pain and urinary or intestinal symptoms. Imperforate hymen should be considered as one of the diagnoses in pre-menarche children with those symptoms. This case also reminds clinicians of the importance of examining of external genitalia that is often forgotten. Early and accurate diagnosis is crucial to prevent severe complications.

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References

- Canelón, S. P., & Boland, M. R. (2020). A Systematic Literature Review of Factors Affecting the Timing of Menarche: The Potential for Climate Change to Impact Women's Health. *International Journal of Environmental Research and Public Health*, 17(5), 1703. <https://doi.org/10.3390/ijerph17051703>
- Enes, P. V., Brandão, P., Ramôa, P., & Torgal, A. (2017). Imperforate hymen: The importance of early diagnosis. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 6(6), 2628. <https://doi.org/10.18203/2320-1770.ijrcog20172367>
- Gaspari, L., Paris, F., Kalfa, N., & Sultan, C. (2023). Primary Amenorrhea in Adolescents: Approach to Diagnosis and Management. *Endocrines*, 4(3), 536-547. <https://doi.org/10.3390/endocrines4030038>
- Hülsman, C. J. M., Köhler, S. E., Morosan-Puopolo, G., Hikspoor, J. P. J. M., & Lamers, W. H. (2025). The Development of the Human Female Reproductive Tract: Part 2—Vagina. *Clinical Anatomy*, n/a(n/a). <https://doi.org/10.1002/ca.70015>
- Jang, E., So, K. A., Kim, B., Lee, A. J., Kim, N. R., Yang, E. J., Shim, S.-H., Lee, S. J., & Kim, T. J. (2021). Delayed diagnosis of imperforate hymen with huge hematocolpometra: A case report. *World Journal of Clinical Cases*, 9(29), 8901-8905. <https://doi.org/10.12998/wjcc.v9.i29.8901>
- Kalaivani V., Gopalan U. (2021). Imperforate hymen: A case report. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 10, 1172. <https://doi.org/10.18203/2320-1770.ijrcog20210755>
- Lee, K. H., Hong, J. S., Jung, H. J., Jeong, H. K., Moon, S. J., Park, W. H., Jeong, Y. M., Song, S. W., Suk, Y., Son, M. J., Lim, J. J., & Shin, J. I. (2019). Imperforate Hymen: A Comprehensive Systematic Review. *Journal of Clinical Medicine*, 8(1), 56. <https://doi.org/10.3390/jcm8010056>
- Muyisa, R., Watumwa, E., Mathe, E., Ndungo, M., & Muyisa, J.-L. (2025). A rare case of acute urinary retention due to hematocolpos in a 15-year-old girl: A case report. *International Journal of Surgery Case Reports*, 126, 110780. <https://doi.org/10.1016/j.ijscr.2024.110780>
- Sakhifa, S., Priyadharshini, M., & Jayanthi. (2025). A case series of imperforate hymen. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 14, 3111-3113. <https://doi.org/10.18203/2320-1770.ijrcog20252749>
- Shahab, F., Mulyantoro, I., Tjahjanto, H., Winarni, T. I., & Faradz, S. M. (2021). Delayed Puberty in Girls with Primary Amenorrhea: A Report of Cases. *Journal of Biomedicine and Translational Research*, 7(2), 92-96. <https://doi.org/10.14710/jbtr.v7i2.12054>
- Surya, R., & Aryasatiani, E. (2024). Sleeve Hymen as a Penetrate Problem in a Newly Married Woman: A Rare Case Report. *Indonesian Journal of Obstetrics & Gynecology Science*, 7(3), 74-78. <https://doi.org/10.24198/obgynia.v7i3.748>
- Tedyanto, C. P., Dewi, S., Santoso, F. I., Ere, M. A. P., & Oeylex, K. R. (2024). A Rare Case Report of a Congenital Imperforate Hymen Causing Obstructive Uropathy and Constipation in an 11-Year-Old Girl. *International Medical Case Reports Journal*, 17, 985-989. <https://doi.org/10.2147/IMCRJ.S494697>