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by Pribakti Budinurdjaj

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SPONTANEOUS PREGNANCY IN POSTOPERATIVE MICROPERFORATED HYMEN: A CASE REPORT

Pribakti Budinurdjaja¹, Ihya Ridlo Nizomy¹, Inas Tsurayya Fauziah Lahdimawan²

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¹ Division of Urogynecology and Reconstruction, Department of Obstetrics and Gynecology, Faculty of Medicine Lambung Mangkurat University/ Ulin Hospital, Banjarmasin

² Residency Program, Department of Obstetrics and Gynecology, Faculty of Medicine of Lambung Mangkurat University/ Ulin Hospital, Banjarmasin

Correspondence Email: inaslahdimawan@gmail.com

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Abstract: *Female genital tract anomalies have important effects on reproductive function, and usually recognized after puberty. The membrane canalization process end to various hymenal forms. Microperforate hymen appears as a partial obstruction depending on its size. Most often, patient will present with menstrual disorders, dyspareunia, and infertility. The aim of this research was to report a case of spontaneous pregnancy in postoperative microperforated hymen in form of case report. A 27-year-old woman, POAO, complained of pain during intercourse. Patient had been married for 1,5 years, had regular menstrual cycles without any contraceptive method, but not conceived yet. Inspection showed an obstructed vaginal introitus with a small opening laterally at 3 o'clock, consistent with microperforate hymen. During surgery, short vaginal introitus was observed and no vaginal canal was seen. A sound was inserted through a small opening of 1 mm in diameter laterally at 3 o'clock, followed by sufficient incision and excision of the distal vaginal tissue. Interrupted suture of the proximal and distal mucosa was performed. The vaginal portion as well as uterus appeared normal. Postoperative tissue healing was good. A spontaneous pregnancy occurred 56 days after the surgery and a healthy term baby was born by caesarean section. In the case of microperforated hymen, menstrual flow can be normal. The patient complained of dyspareunia or impaired sexual penetration leading to infertility, although the presence of a small opening may allow passage of sperm and spontaneous pregnancy may occur before the surgery. Surgery can reduce psychological stress and improve reproductive function, allowing pregnancy to occur.*

Keywords: *hymen, microperforate, infertility, spontaneous pregnancy*

INTRODUCTION

The hymen is a squamous tissue structure which invaginates from the perineum (urogenital sinus) to meet the longitudinal (Mullerian structure) vaginal tract. There is a complete canalization of the vaginal canal at this point, and this membrane retracts back with only a small fragment of circumferential tissue around the vaginal introitus. The canalization process depends on the various events, which include cell differentiation, migration, fusion, and canalization. However, any failure of the process can lead to congenital anomalies such as total obstruction, imperforate hymen, or partial remnants such as microperforated hymen and septated vagina. Primary amenorrhea can be found in the imperforate hymen. Clinical manifestation and management of the various shape of hymen depend on the patient's age during the initial onset of diagnosis and related complications.¹ Diagnosis is made based on pelvic examination and visualization of the hymen. Transabdominal, transperineal, or transrectal ultrasonography can be used to differentiate anomalies between hymen or vaginal.⁸

It is important to note that microperforated hymen and septated vagina may not appear as an obstruction. Menstruation still occurs in the patient, and depending on the degree of perforation, there may be retained menstrual blood with malodorous discharge, particularly in the microperforated hymen. A classic clinical manifestation of patients with microperforated hymen is the inability to have penetrative vaginal sexual intercourse, which causes painful sexual intercourse or dyspareunia.¹ Anomalies of the female genital tract have a significant impact on menstruation, sexual activity, fertility, and labor process. Such anomalies are generally discovered after puberty but may also be discovered during the neonatal period.³

The microperforated type of the hymen (pinhole) is a congenital obstructive vaginal membrane with minimal opening and incomplete obstructive pathology, which allows normal menstrual flow. Such condition is a rare form and frequently mistaken for an imperforate hymen. The opening orifice may serve as a passage for menstrual bleeding, and sperm.⁴ Symptoms may vary based on the size of the orifice. Some patients will experience periodical menstruation with moderate menstrual bleeding, but the majority of the bleeding is accumulated in the vagina; irregular periods may occasionally occur; some of the patients have delayed menarche with chief complain of periodic abdominal pain and pelvic mass caused by hematoma.⁹ Differential diagnosis of microperforated hymen includes imperforate hymen, Mayer-Rokitansky's syndrome, transverse vaginal septum, and labia adhesion.¹¹

CASE REPORT

A 27 years old woman, POA0, presented to RSUD ulin complaining of painful sexual intercourse for 1.5 years. She had no history of bleeding during intercourse, and she felt dryness in her vagina. She also had a complaint of leukorrhea. She has been married for 1.5 years yet does not have any child. She had no history of contraception use. She had her menarche at the age of 15 with a regular cycle of 28 days and 7 days duration, her first day of the last menstrual period was June 17th 2019. Examination on September 14th 2019 showed a blood pressure of 134/81 mmHg, 84 times/min heart rate, 20 times/min respiratory rate, and 36.7 °C body temperature. Speculum examination showed 4 cm vaginal septum with no visual for portion. The vaginal toucher showed occluded vaginal introitus, with a distance of \pm 0.5 cm from occluded vaginal to fourchette. External urethral meatus was presented to be \pm 3 cm above

fourchette. A small/micro orifice was noticed on the lateral side of the occluded vagina at the 3 o'clock position, with soft consistency on palpation, without pain and signs of inflammation. Transvaginal ultrasonography (USG) showed a filled urinary bladder, normal urethral size, and position, normal anus, and rectum position, with the USG's probe entering 0-1 cm into the vaginal introitus. A transverse vaginal septum with a thickness of 0.54 cm was present with the vagina proximally visible. Blood workup showed a hemoglobin level of 13.1 g/dl. The patient was diagnosed with microperforated hymen with a differential diagnosis of distal vaginal agenesis. The patient was then planned for elective surgery. Exploration of external genitalia showed normal mons veneris, urethra, and vulva. The vaginal introitus was short with no visualization of the vaginal canal, Mullerian vestige on the left and right side of the external urethral orifice. On rectal toucher examination, the vagina was palpable proximally from the portio/cervix of the uterus, on the anterior side of the finger inside the rectum around \pm 7-8 cm proximally from the fourchette. Small/micro orifice in the size of \pm 1 mm was found on the occluded vagina part laterally under the left of external urethral orifice about \pm 2 cm from the bottom edge of the left external urethral orifice (Figure 1). The vaginal probe was inserted initially with the smallest size and subsequently up-to-the largest probe possible, which followed by incision and excision of distal vaginal tissue. Proximal and distal mucosa was then sutured with pull-through technique (interrupted) using PGA no 2.0 suture followed by re-evaluation and bleeding control. Speculum examination showed a normal portion of uterus, and the uterine sondage was inserted and measured for 8 cm of depth with anteflexion uterus. Excised tissue was referred for histopathological

examination with results of normal stratified squamous epithelium cell and submucosa consisting of vascularized connective tissue and no signs of malignancy, suggesting a normal vaginal tissue. The patient's hemodynamic status postoperative was stable with no vaginal bleeding. The patient was discharged on the third day.



Figure 1. Preoperative, menstrual bleeding appears to be flowing out of the pinhole on the hymen.



Figure 2. Transvaginal sonography: normal urethral size and position, normal anus and rectum position, probe was inserted 0-1 cm into the vaginal introitus. A transverse vaginal septum with a thickness of 0.54 cm with a visible vagina proximal



Figure 3. Durante operation, speculum examination shows portion (after excised).



Figure 4. Postoperative day-0, day-2, day-8, and day-28

She returned to urogynecology outpatient clinic for routine follow up on day 8 and day 28. Wound healing was good. She had a menstrual period on day 20 postoperative. A spontaneous pregnancy occurred 56 days after the surgery and a healthy term baby was born by caesarean section

RESULTS AND DISCUSSION

The patient was diagnosed with a microperforated hymen. Based on the anamnesis, we found that the patient had complained of painful sexual intercourse. The patient still has her menstrual period with no complaint of a painful menstrual period. The patient has also had primary infertility for 1.5 years.

Microperforated hymen occurs during embryological development and is considered a congenital abnormality. Common symptoms of this malformation include primary amenorrhea, pelvic pain, vaginal bleeding, leukorrhea, dysuria, and infertility. Symptoms usually tend to persist without early intervention in early childhood.⁵

Speculum examination showed occluded vaginal introitus, with a distance of ± 0.5 cm from occluded vaginal to fourchette. A small / micro-orifice was noticed on the lateral side of the occluded vagina. On the rectal toucher examination, the vaginal wall up to the uterus was palpable in the anorectal wall. A small

portion with a diameter of 2-3 cm was palpable and within normal values. The uterus appeared to be anteflexion on palpation, without any mass found on the adnexa and parametrium. Pain, hematometra, hematocolpos, and hematosalping were not found.



Figure 7. Normal anatomical variation of the hymen. (A) Normal, (B) Imperforate, (C) Microperforated, (D) Cribriform, (E) Septate.

Management of microperforated, septated, and cribriform hymen include resection of excess hymenal tissue to form a normal diameter of the hymeneal ring. Excessed hymeneal tissue is excised using electrocauterization and sutured in an interrupted fashion to approximate the tissue. A urethral catheter should be placed prior to the surgery or intraoperatively to confirm the location of the urethra. In order to avoid the urethra, an initial incision in the shape of the cruciate or U-shaped is made using sharp dissection or cauterization. The excess hymeneal mucosa should be excised, and the mucosal edges may be reapproximated using a 3-0 or 4-0 absorbable suture in an interrupted fashion to achieve hemostasis. Incision technique for aggressive irrigation on the dilated vagina should be avoided due to the risk of ascending infection.¹

Postoperative care aims to maintain hygiene using several topical emollient/topical estrogen creams to enhance healing and decrease the likelihood of stricture/stenosis formation. Antibiotics

may be given patients with hematometocolpos. The use of tampon and sexual activity should be avoided until proper vaginal distention and until initial bleeding has resolved. Should stenosis and adhesions after hymenectomy occur, dilator therapy may be considered.⁶

During postoperative period, the patient tended to have irregular menstrual cycles with dysmenorrhea, which is mostly associated with endometriosis as a result of an occurring hematometocolpos prior to surgery. Most sexual dysfunctions and infertility were resolved postoperatively. Although there has been a case report of spontaneous conception in patients who have had sexual contact without vaginal penetration. It is widely accepted that surgery can reduce psychological and sexual stress on the patient.⁶

A similar case has been reported in RSUP Dr. M. Djamil Padang, in which the patient with microperforated hymen was pregnant. A homogenous orifice that occludes the vaginal introitus was present. It is suspected that the small orifice on the hymen permitted passage for sperm, which caused the pregnancy to occur. Microperforated or cribriform hymen in pregnancy does not allow for spontaneous delivery or labor progression; therefore, termination by cesarean section is the preferred option in such cases.⁹ In other cases, surgical hymenotomy was performed in the case of pregnancy with microperforated hymen.^{10,11}

CONCLUSION

In the case of microperforated hymen, menstrual flow can be normal. The patient complained of dyspareunia or impaired sexual penetration leading to infertility, although the presence of a small opening may allow passage of sperm and spontaneous pregnancy may occur before the surgery.

A careful history taking, physical examination, continued with diagnostic tool are needed to make correct diagnosis. Awareness and early detection may improve patient's quality of life. Surgical intervention is required for a better outcome. It can reduce psychological stress and improve reproductive function, allowing pregnancy to occur.

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