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Case Report

Microperforate Hymen Presenting as Tubo-Ovarian Abscess in Adulthood

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Abstract

Microperforate hymen is a rare vaginal anomaly that is usually reported in childhood due to recurrent urogenital infections. Unlike imperforate hymen where the presenting complaints are classical due to complete vaginal obstruction, the less profound and varied presentation of microperforate hymen may go unnoticed. We report a case of a 39-year-old, with a background history of amenorrhea, who presented with acute abdomen suggestive of tubo-ovarian abscess, and was finally diagnosed to have microperforate hymen. She underwent hymenectomy to correct the anomaly. To our knowledge, this is the oldest age of presentation of a congenital form of microperforate hymen. A high index of suspicion and early detection of microperforate hymen and properly timed intervention is essential to prevent acute symptoms and long term detrimental sequalae to women's reproductive and psychosexual health.

Keywords: congenital anomalies, imperforate hymen, microperforate hymen, surgical correction, tubo-ovarian abscess

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Introduction

Microperforate hymen was first described in the literature in 1968 as an abnormally small hymenal orifice with normal female genitalia and vagina (1). The prevalence of microperforate hymen ranges from 1:1000 to 1: 10,000 (2). In contrast to imperforate hymen which commonly presents during the neonatal period or near the time of menarche, the diagnosis of microperforate hymen has a wide spectrum of presentations. We report a case of an adult with acute abdominal pain and a background history of subfertility that was finally diagnosed to have a microperforate hymen.

Case Report

A 39-year-old nulliparous woman presented with lower abdominal pain associated with intermittent fever for one month. She attained menarche at 13 years of age, and had irregular menstruation with periods of amenorrhea ranging from 3 to 6 months. In the recent 2 years, she had regular prolonged menstruation and intermenstrual bleeding which was malodorous. There was no history of recurrent urinary or lower genital tract infections. She was sexually active for two years and had normal coitus without dyspareunia, however has not been able to conceive.

Her BMI was 34. She had fever and a palpable tender mass at the left iliac fossa. Examination of the external genitalia revealed a short vagina measuring approximately 20 mm and absent hymenal opening. An introital swab cultured Group B Streptococcus. Her total leucocyte count was 9.5 x 103 u/L.

An abdominopelvic ultrasound scan revealed an anteverted uterus measuring 11 x 4 x 3 cm with a left complex mass measuring with no free fluid within the pelvis. Computer tomography scan of the abdomen, pelvis and perineum revealed a complex mass at the left hemipelvis measuring 9 x 5 x 7 cm with features

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suggestive of tubo-ovarian abscess. There were no associated genitourinary tract anomalies. A diagnosis of Mullerian dysgenesis with tubo-ovarian abscess was made. She was treated with empirical antibiotics Cefuroxime and Metronidazole. Her pyrexia and pain resolved.

On assessment one month later, the mass at the left hemipelvis was no longer palpable or visualized on abdominopelvic ultrasound. The sonography showed thin endometrium with hematocolpos. She was examined under anesthesia and there was a subcentimeter orifice seen at the 1 o'clock position of hymen (Fig. 1). The external urethral orifice appeared patulous. Cystoscopy revealed normal bladder mucosa and ureteric orifices. There was no fistulous opening seen on the bladder or urethral mucosa.

The hymenal tissue was incised and the excess tissue was excised with an annular incision. About 200cc of pyocolpos was drained. The edges of the hymenal remnants was oversewn with polylactin 910 suture (Fig. 2). A hysteroscopy revealed normal cervix and endometrial cavity.

She was reviewed up till 6 months after surgery. Her menstrual flow became normal, without dysmenorrhea or malodorous vaginal discharge. The vagina remained patent and she had resumed normal coitus. She had symptoms of mixed urinary incontinence, which improved on pelvic floor muscle training.

Discussion

The hymen is derived from fusion of the caudal end of the paramesonephric duct and urogenital sinus, followed by epithelial cell degeneration of at the central portion of the membrane (3). Congenital obstructive lower genital tract anomalies may result from failure of canalization of the vaginal plate or failure of or incomplete degeneration of the epithelial plate (4), leading to imperforate or microperforate hymen.

Microperforate hymen is a form of incomplete vaginal obstruction that permits menstrual flow. In contrast to imperforate hymen which classically presents with primary amenorrhea with cyclical pain, or mass effect from a hematocolpos, microperforate hymen is usually diagnosed before menarche for recurrent vulvovaginitis or urinary tract infection due to the trapping of urine in the vagina (1,5). In a case series by Capraro et al, the age of diagnosis ranged from 3 months to 12 years (1). Rarely, diagnosis of microperforate hymen may be delayed since patients have menstruation. However, the slow drainage of

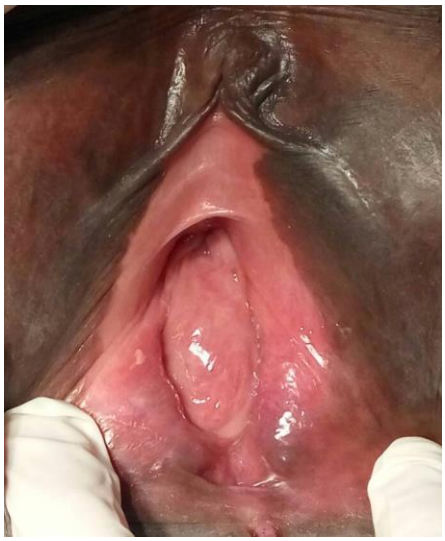

Figure 1: The appearance of the microperforate hymen with orifice at 1 o'çlock

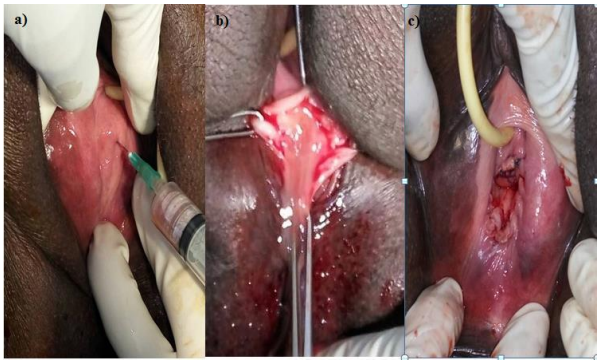

Figure 2: a) Needle aspiration of the hematocolpus
b) Incision of the hymen and drainage of hematocolpos
c) Appearance of the vulva after hymenectomy

blood through the microperforations may lead to prolonged menstruation or intermenstrual spotting (6,7), or malodorous vaginal discharge. Our patient presented with symptoms of prolonged menstruation and malodorous vaginal discharge only in the recent 2 years, during which she had regular menstrual cycles. Prior to this, she had frequent periods of amenorrhea. Her increased body mass index and subfertility point to possible anovulatory cycles.

In women with vaginal obstruction, sexual difficulties or compensatory abnormal sexual behaviour including urethral coitus have been described (6,8). This is possible as the elasticity of the female urethra permits repeated coitus hence leads to delay in diagnosis of vaginal anomalies (8). Our patient had been sexually active for the past two years and did not complain of

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any difficulty with coitus or coital incontinence. She had a slightly patulous urethra on examination, which may indicate partial penile penetration. There are reported cases where women underwent urethroplasty however conservative management has also resulted in the urethra resuming its physiological size upon cessation of urethral coitus (6).

Our patient presented with a history of subfertility. There have been case reports of spontaneous pregnancy in women with microperforate hymen (9,10). The irregular menstruation suggests that there may be an element of anovulation contributing to the subfertility rather than being case by the anatomical obstruction and its sequalae. The precise cause of the subfertility was not ascertained as the patient declined investigation.

The microperforation allows pathologic microbes to ascend the genital tract causing infection of the pooled secretions in the urogenital system (7) and may form pelvic abscesses, as was the initial presentation in our patient. As her symptoms resolved with empirical antibiotics, we scheduled her for an elective examination under anaesthesia and drainage of the abscess. However, in the intervening period, she had a flow of menses and the pelvic abscess was no longer clinically or radiologically apparent.

Various surgical techniques have been employed for correction of vaginal obstruction with no consensus over which method is superior. The widely accepted method for imperforate or microperforate hymen is a cruciate incision then excision of the excess tissue of the hymen and suturing the hymenal ring to the vaginal mucosa to prevent stenosis (4). Other methods emerged due to concern of preservation of virginity. One such method was progressive dilatation with Hager dilators (1,6,11). Acar reported a case series of a central incision of imperforate hymen followed by the insertion and retention of a foley catheter for 2 weeks followed by the application of estrogen cream to preserve the patency of the hymen with good success rates (12). This method could potentially be extrapolated to women with microperforate hymen as an alternative to hymenectomy.

Persistence of symptoms after surgical intervention has been reported as 40% (13). Rock et al. reported an 86% pregnancy rate within 2 years on follow up of women after surgical correction of imperforate hymen. They postulated that the rate of pregnancy may be inversely related to the degree of retrograde blood flow causing endometriosis and destruction of the fallopian tubes (14).

Conclusion

Microperforate hymen is a unique entity separate from imperforate hymen and is a diagnostic challenge due to its wide spectrum of presentations. To our knowledge this is the oldest age of diagnosis of congenital microperforate hymen reported. Early detection of microperforate hymen and properly timed intervention is essential to prevent acute symptoms and long term detrimental sequalae to women's reproductive and psychosexual health.

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