Huge Vaginal Wall Mullerian Cyst Mimicking High Stage Pelvic Organ Prolapse

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Dear Editor:
The prevalence of vaginal cysts (VC) is estimated to be 0.5 %. However, the exact prevalence is unknown because most of the VCs are small and asymptomatic 1. The most common differential diagnoses of vaginal cystic lesions include: Mullerian cyst, Gartner's duct cyst and epidermal inclusion cyst. Lesions originating from the urethra and surrounding tissues, such as Skene's duct cyst, urethral diverticulum and ectopic ureterocele may occasionally mimic VC. Pelvic organ prolapse, may also present as VC[1-3].
Mullerian cysts are the most prevalent VCs which are lined predominately by benign mucinous epithelium 1. These cysts are usually small and symptom free and require no treatment. However, sometimes they can become large as in the present case and may cause symptoms such as sensation of pressure or fullness in the vagina, palpable mass, dyspareunia, pain or lower urinary tract symptoms[1,3].

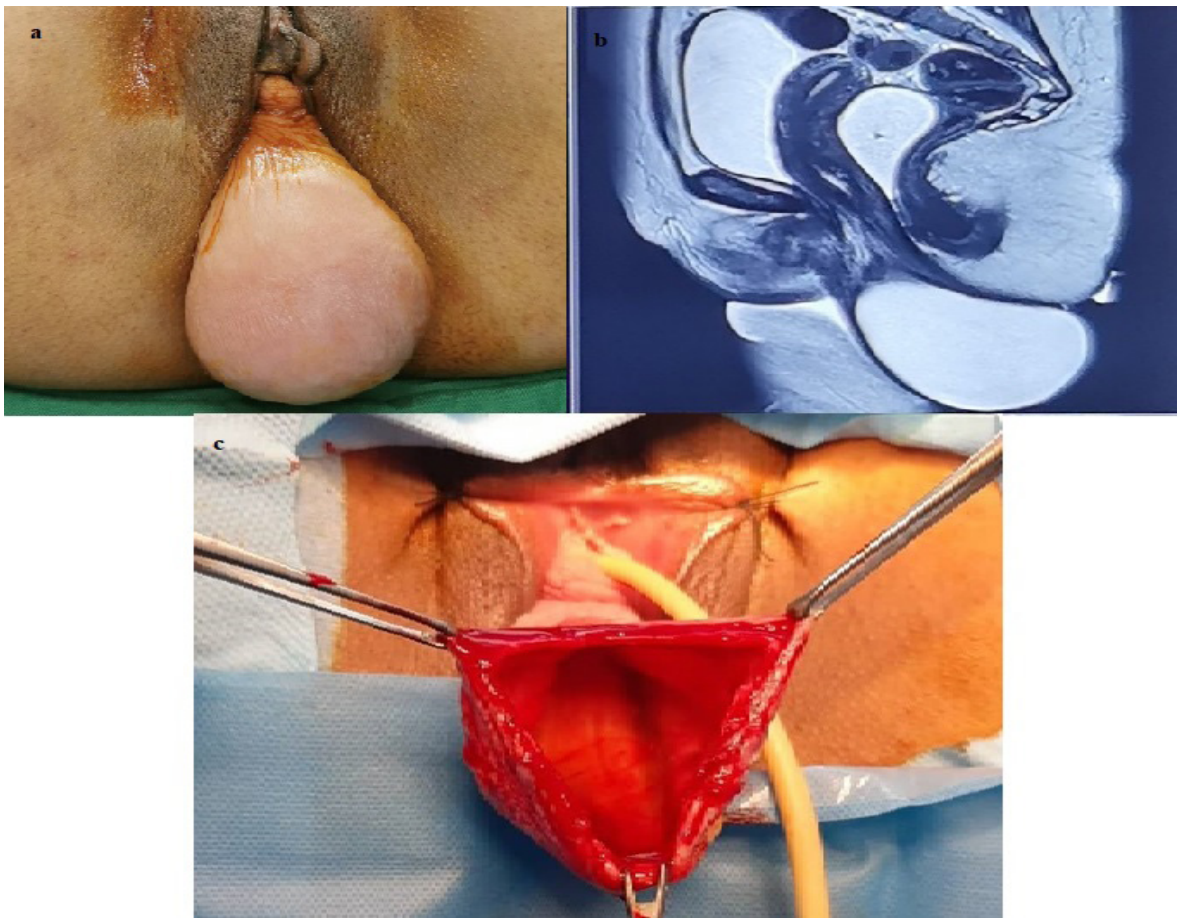

Figure 1:a: Anterior virginal wall cyst measuring about 15 cm in diameter, mimicking a high grade pelvic organ prolapse. **b:** Dynamic pelvic MRI of the large vaginal cyst. **c:** Intra-operative view of longitudinal incision for vaginal cyst removal.

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Since the VCs are relatively rare and due to the wide differential diagnosis and variable clinical manifestations, sometimes it is difficult to reach to exact diagnosis. Herein we report an uncommon case of a huge Mullerian cyst, mimicking grade four pelvic organ prolapse and its management.

A 37-year-old woman presenting with stage four anterior vaginal wall prolapse (cystocele), was referred to our hospital for further evaluation. She had a history of two normal vaginal deliveries. She did not mention any history of pelvic surgeries. Routine laboratory tests were all within normal limits. During pelvic examination a huge non-tender cystic mass measuring about 15 × 10 cm was protruded from the introitus (**Figure 1a**). The cyst remained unchanged after voiding. Perineal ultrasonography showed the cystic nature of mass and no evidence of bowel components at the region.

Cysto urethroscopy and dynamic pelvic MRI (Magnetic resonance imaging) showed no communication between the cyst wall and adjacent pelvic organs (**Figure 1b**). Imaging also ruled out concomitant renal or internal genital anomalies.

Under spinal anesthesia and in lithotomy position, a Foley catheter was passed through the urethra into the bladder. The anterior vaginal wall epithelium and cystic wall was incised longitudinally, and a massive amount of mucoid fluid about 400 ml was drained. During dissection, the inner cavity of the cyst was carefully inspected for probable communication with bladder or intestinal elements (**Figure 1c**).In order to reduce recurrence rate, we removed the whole germinal layer of cyst by sharp and blunt dissection with minimal damage to surrounding tissues. There was not any intra or post-operative complications. The patient was discharged the following day after operation. She had no problem at the second week follow-up visit. Histopathology report revealed a vaginal Mullerian cyst lined by benign mucinous epithelium.

Vaginal wall Mullerian cysts are the most prevalent type of VC (about 40%) which are usually located on the anterior or lateral vaginal wall. However, these lesions may exist at any location in the vaginal cavity. Mullerian cysts are often benign which are divided into the following types: mucinous endocervical (the most common), ciliated fallopian tubal and endometrial ones[1].

They are usually small and asymptomatic and do not require any intervention. If the VCs grow in size, they can be easily misdiagnosed with other inter-labial lesions such as anterior vaginal wall prolapse, enterocele or even a urethral diverticulum. Thus in these situations, before planning for any intervention, it is recommended to obtain as much information about the VC and the adjacent organs as possible.

In the majority of cases, a definitive diagnosis is made by history and pelvic examination. However sometimes imaging modalities such as perineal or vaginal ultrasonography and pelvic MRI are required for accurate diagnosis, exact location, number of cysts, and communication with adjacent organs.[3-5]

In fact, most of the time a definitive diagnosis is only made after surgical exploration and pathology report. Our patient was an unusual case with a very large vaginal cyst, thus assessment by ultrasonography, MRI and cysto urethroscopy was essential to ensure diagnosis.

Vaginal cysts are treated via surgical excision. The cyst wall should be removed completely to reduce the recurrence rate. If a portion of the cyst remains unresected, it should be vaporized to diminish the risk of recurrence.

In conclusion, when evaluating an anterior vaginal wall pathology, especially atypical ones, it is necessary to consider three points:

1. Accurate assessment by history and pelvic physical examination is necessary to confirm cyst location and size. In this regard, perineal or vaginal ultrasonography and dynamic MRI are helpful modalities useful to differentiate between the VCs and other diagnoses.
2. In VC surgery, complete removal of the cyst wall is necessary to reduce the recurrence rate.
3. In case of huge VCs, the surgeon should be careful to prevent vaginal shortening during vaginal mucosal reduction and repair.

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