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Case Report

Obstetrics and Gynaecology Section

Anterior Vaginal Wall Cyst Mimicking Advanced Cystocele: A Case Report

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ABSTRACT

Anterior vaginal wall cysts are rare benign lesions that can clinically mimic pelvic organ prolapse, particularly cystocele, resulting in diagnostic challenges and inappropriate management if not accurately identified. We report the case of a 28-year-old multiparous woman who presented with a one-month history of a vaginal mass. Clinical examination suggested a Grade III cystocele in the absence of urinary or bowel symptoms. Ultrasonography raised suspicion of an anterior vaginal wall cyst. A simple bedside diagnostic technique combining bladder catheterisation with simultaneous assessment of the vaginal mass demonstrated no reduction in the size of the lesion following bladder drainage and clear demarcation from the urinary bladder, thereby excluding cystocele. The patient underwent complete surgical excision of the anterior vaginal wall cyst with anterior vaginal wall repair and repair of old posterior vaginal wall tears. Histopathological examination confirmed the diagnosis of an anterior vaginal wall cyst. The postoperative course was uneventful, and the patient remained asymptomatic with no evidence of recurrence at one-month follow-up. This case highlights the importance of considering anterior vaginal wall cysts in the differential diagnosis of anterior vaginal wall masses and demonstrates the value of combining careful clinical evaluation with simple bedside techniques and ultrasonography to achieve an accurate diagnosis and appropriate surgical management.

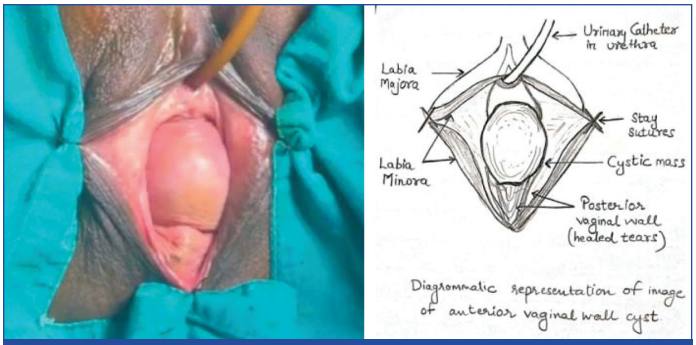
Keywords: Bladder catheterisation, Epithelial inclusion cyst, Pelvic organ prolapse, Surgical excision, Vaginal mass

CASE REPORT

A 28-year-old multiparous woman (para 3, living 3) presented to the outpatient department with a one-month history of a mass protruding through the vagina. The swelling was insidious in onset and gradually progressive. She denied associated symptoms such as pain, abnormal vaginal discharge, bleeding per vaginum, urinary complaints, or bowel disturbances.

She had three previous full-term vaginal deliveries, including one home delivery, with her most recent childbirth occurring 11 months before presentation. She was in lactational amenorrhoea. There was no significant past medical or surgical history.

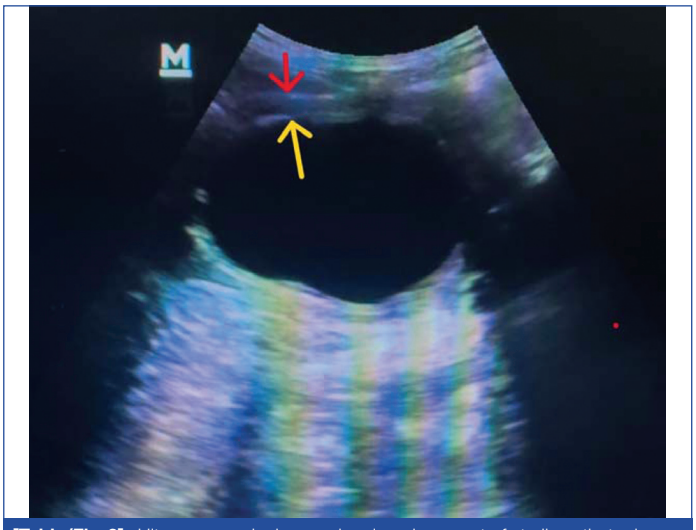
On general examination, the patient was haemodynamically stable, and systemic examination was unremarkable. Per speculum examination revealed a well-defined bulge arising from the anterior vaginal wall, clinically suggestive of a Grade III cystocele according to Baden-Walker halfway classification [1], without associated uterovaginal prolapse [Table/Fig-1]. The posterior cervical lip was adherent to the posterior vaginal wall, suggestive of a healed obstetric tear. Two additional healed fibrotic tears were noted over the posterior vaginal wall.



[Table/Fig-1]: Shows a well-defined, tense cystic mass arising from the anterior vaginal wall with intact overlying mucosa.

On bimanual examination, the uterus was retroverted and normal in size, and both fornices were free and non-tender. Although the clinical findings suggested an advanced cystocele, the absence of urinary symptoms and the well-circumscribed nature of the swelling prompted further evaluation to exclude other causes of an anterior vaginal wall mass.

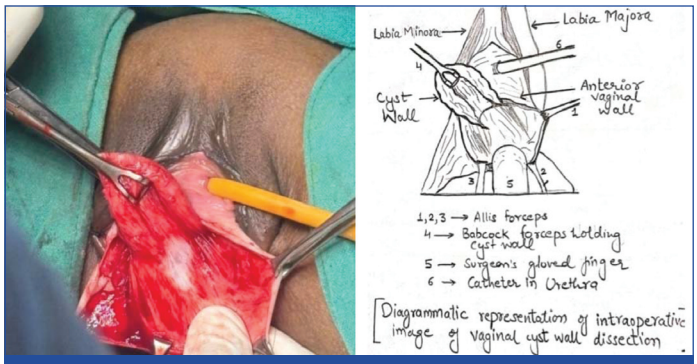
Routine laboratory investigations were within normal limits. Cervical cytology was negative for intraepithelial lesion or malignancy. Ultrasonography demonstrated a well-defined cystic lesion arising from the anterior vaginal wall, separate from the urinary bladder. To further differentiate the lesion from a cystocele, bladder catheterisation was performed. Following complete bladder drainage, there was no reduction in the size of the vaginal mass. Simultaneous ultrasonography demonstrated a clear plane between the bladder and the cyst, thereby excluding cystocele and confirming the diagnosis of an anterior vaginal wall cyst [Table/Fig-2].



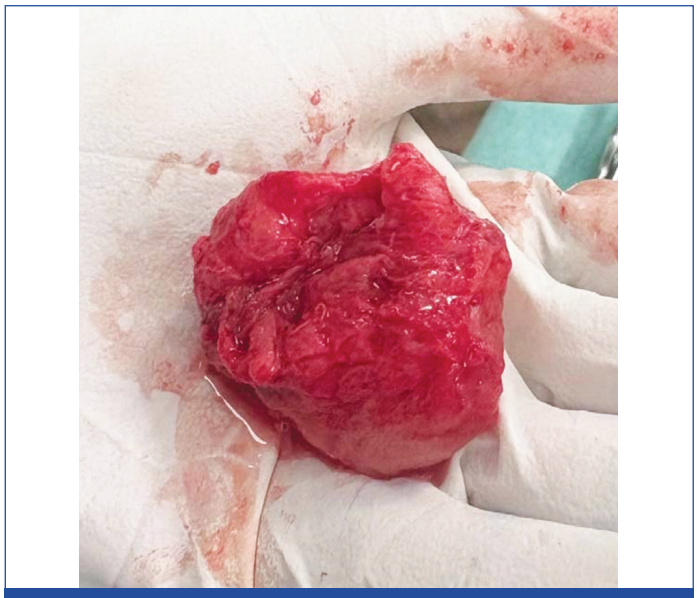
[Table/Fig-2]: Ultrasonography image showing placement of sterile catheter in bladder (marked by Red arrow) and clear demarcation of cyst wall from bladder (marked by Yellow arrow).

The patient underwent surgical excision of the cyst under regional anaesthesia. Intraoperatively, a well-defined cyst measuring

approximately 5×4 cm was identified arising from the anterior vaginal wall. The cyst was meticulously dissected using sharp and blunt dissection [Table/Fig-3]. During dissection, the cyst ruptured, releasing clear fluid, following which the cyst wall was completely excised [Table/Fig-4]. No communication with the bladder or urethra was identified. Redundant anterior vaginal mucosa was excised, and anterior colporrhaphy was performed to restore the vaginal anatomy. The healed posterior vaginal wall tears were also repaired. A urinary catheter and vaginal roller pack were kept in situ for 24 hours postoperatively.



[Table/Fig-3]: Intraoperative image showing dissection and excision of an anterior vaginal wall cyst.



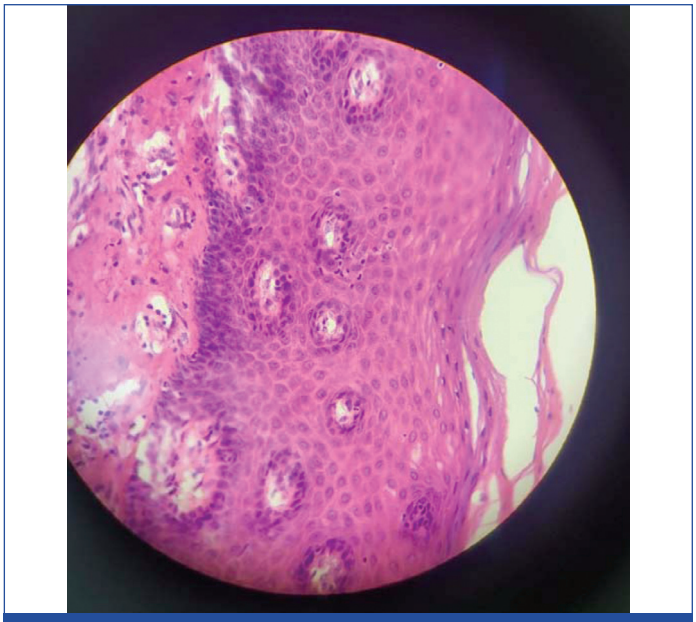
[Table/Fig-4]: Gross specimen of the excised anterior vaginal wall cyst.

Histopathological examination of the excised specimen revealed a cyst wall lined by non-keratinised stratified squamous epithelium with an underlying fibro-collagenous stroma showing mild chronic inflammatory infiltrate. No evidence of epithelial dysplasia or malignancy was identified. The histomorphological features were consistent with a benign anterior vaginal wall epithelial (inclusion) cyst [Table/Fig-5].

The postoperative period was uneventful. The patient remained haemodynamically stable throughout her hospital stay, with no episodes of bleeding per vaginum, urinary retention, wound infection, or other complications. The urinary catheter and vaginal roller pack were removed after 24 hours. She voided spontaneously with a satisfactory urinary stream and without any residual urinary symptoms. The surgical wound healed well, with healthy wound margins and no evidence of haematoma or infection.

The patient was mobilised early and discharged in satisfactory condition on the third postoperative day. She was advised regarding perineal hygiene, avoidance of strenuous physical activity and heavy lifting, and the importance of regular follow-up.

At the one-week follow-up visit, she reported complete resolution of the vaginal bulge and remained free of urinary or bowel complaints. Clinical examination showed satisfactory wound healing with no evidence of recurrence. At one-month follow-up, the patient continued to remain asymptomatic, with no recurrence of the vaginal mass or postoperative complications, indicating an excellent surgical outcome.



[Table/Fig-5]: Histopathology image showing a cyst wall lined by non-keratinised stratified squamous epithelium with no evidence of cellular atypia or malignancy, consistent with a benign anterior vaginal wall epithelial (inclusion) cyst (Haematoxylin and Eosin (H&E) staining and 100 x magnification).

DISCUSSION

Anterior vaginal wall cysts are rare benign lesions with a reported prevalence of approximately 0.5-1%, and are often asymptomatic unless large [2].

These cysts arise from embryological remnants or epithelial inclusions after trauma [3].

Cystoceles are far more common in multiparous women and are usually diagnosed clinically [4]. However, large vaginal wall cysts may mimic cystoceles, leading to diagnostic confusion.

Similar diagnostic challenges have been reported in the literature. Benlghazi A et al., and Trikhacheva A et al., described an anterior vaginal cyst mimicking pelvic organ prolapse [3,5], while Jayasree J et al., and Kumari S reported anterior vaginal cysts presenting as apparent cystocele or a large vaginal bulge [6,7]. In a retrospective series, Esber A et al., identified anterior vaginal cysts in 19 of 797 patients undergoing anterior compartment repair [2], highlighting that these lesions may be encountered during prolapse assessment and can mimic anterior vaginal wall prolapse. These reports emphasise the importance of considering vaginal cysts when the clinical findings are atypical for pelvic organ prolapse.

In the present case, the patient's multiparity and the apparent anterior vaginal wall descent initially suggested Grade III cystocele; however, the absence of urinary symptoms and the well-defined nature of the mass prompted further evaluation. Evaluation requires a systematic approach, including clinical examination and imaging. Ultrasound is the first-line investigation, whereas magnetic resonance imaging may be reserved for complex cases [6,8].

The differential diagnosis for a benign vaginal cyst is broad, including Mullerian or Gartner's (mesonephric) duct cysts, Skene duct, Bartholin gland, epidermal inclusion, or endometriotic cysts, adenosis, or urethral diverticulum [5,9]. Urethral diverticulum may closely mimic vaginal cysts, but it is usually associated with urinary symptoms and may communicate with the urethra [10]. Vaginal leiomyoma is another rare entity that can present as a vaginal mass and is often diagnosed only after histopathological evaluation [11]. A key distinguishing feature is the response to bladder emptying: a cystocele reduces in size, whereas a vaginal cyst does not.

This simple bedside principle is crucial in this case. There are no standardised guidelines due to its rarity, but complete surgical excision is the treatment of choice, with good outcomes and low recurrence rates [12].

This case reinforces the importance of combining clinical suspicion with simple diagnostic technique to avoid misdiagnoses.

CONCLUSION(S)

Anterior vaginal wall cysts, although rare, should be considered in the differential diagnosis of anterior vaginal wall masses, particularly when the clinical findings are atypical for cystocele. Careful clinical assessment, complemented by ultrasonography and simple bedside techniques such as bladder catheterisation, can accurately distinguish these lesions from pelvic organ prolapse and prevent inappropriate management. Complete surgical excision remains the treatment of choice and is associated with excellent functional and cosmetic outcomes.

Declaration of consent: Written informed consent for publication of this case report and all accompanying clinical images was obtained from the patient.

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