

Leiomyoma of the anterior vaginal wall: a rare case

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Abstract

Background: Leiomyoma is a benign smooth muscle mesenchymal tumor, usually of uterine origin but may rarely develop in the vaginal walls.

Case presentation: A case of 40-year-old para 5+0 woman with anterior vaginal wall leiomyoma is reported. The presentation mimics that of uterovaginal prolapse and hence presents a diagnostic challenge. The unusual appearance of the protrusion, failure to reduce at any time even while lying down, and complete absence of urinary symptoms raised the suspicion of a rare case. The diagnosis was made through examination under anesthesia, cystoscopy, and biopsy. Histological examination of the biopsy specimen confirmed vaginal wall leiomyoma. The patient had complete excision of the mass without any complications.

Discussion and Conclusion: Vaginal wall leiomyoma is a rare benign vaginal lesion that can easily be misdiagnosed. Diagnosis involves critical clinical evaluation, especially during pelvic examinations. Any vaginal protrusion should be approached with a high index of suspicion, especially in patients of reproductive age.

Keywords: Leiomyoma, Cystoscopy, Biopsy, Vaginal Wall, Utero-Vaginal Prolapse

Background

Leiomyoma is a benign neoplasm of the smooth muscle, usually of the uterus but can occur in other sites like the cervix, broad ligament, and rarely vaginal walls. The tumor consists of smooth muscle cells in combination with varying amounts of fibrous tissue. The occurrence of this tumor in the anterior vaginal wall is uncommon.

Case presentation

Mrs. AD, a 40-year-old, para5⁺⁰ petty trader presented in our clinic with a history of protrusion of a mass per vagina of 3 months' duration. The protrusion was painless and said to be fleshy, not reducible at any time, and not increasing in size. There was associated watery vaginal discharge but no bleeding per vagina. There was no history of any urinary symptoms, no straining while

defecating and she has not been carrying heavy objects. There was no history of abdominal swelling and abdominal pain, however, she complained of low back pain. Mrs. AD had stopped sexual activities since the onset of the symptoms. Her cycle had been regular; she bleeds for 5days in a 28-30 days' cycle. Her last Childbirth was 8 years before presenting and all her 5 parous experiences were hospital-supervised deliveries with no history of prolonged labor or perineal injury during the deliveries. Examination at the presentation revealed an anxious-looking woman who was not pale and afebrile. Her Body Mass Index was 26.2kgm⁻², her pulse rate was 82 beats per minute and her blood pressure was 100/70 mmHg. There was no mass palpable on abdominal examination.

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Pelvic examination revealed a hyperaemic mass covered with slough protruding outside the introitus. The mass measured 10cm by 10cm, firm in consistency and originating from the anterior wall of the vagina. The anterior vaginal wall was edematous. The mass was not tender and there was no active bleeding on contact. There was no further protrusion of the mass on the Valsalva maneuver and no demonstrable urinary incontinence. It was also not reducible. The urethral meatus was visible and had a tiny fleshy tag at 1'0' clock position. The cervix was in its anatomical position, firm and os were patulous. The posterior vaginal wall was normal, the uterus was not bulky, the adnexa was free and the pouch of Douglas was empty. There were no abnormal findings on rectal examinations.

An initial diagnosis of vaginal wall mass probably infected vaginal wall cyst with differentials of vaginal cancer and bladder cancer was made.

Mrs. AD was commenced on broad-spectrum antibiotics and the mass was dressed daily with gauze soaked in normal saline. The urologist was invited to review the patient and made an assessment of the suspected bladder tumor. A second opinion by another gynecologist a few days after admission, when the edema has markedly subsided, raised the possibility of vaginal wall leiomyoma.

The full blood count showed a mild elevation in white blood cell count but the packed cell volume, serum electrolyte, urea, and creatinine as well as the urine analysis were all normal. Ultrasound Scanning showed no abnormality as the uterus was normal in size and in its anatomical position.

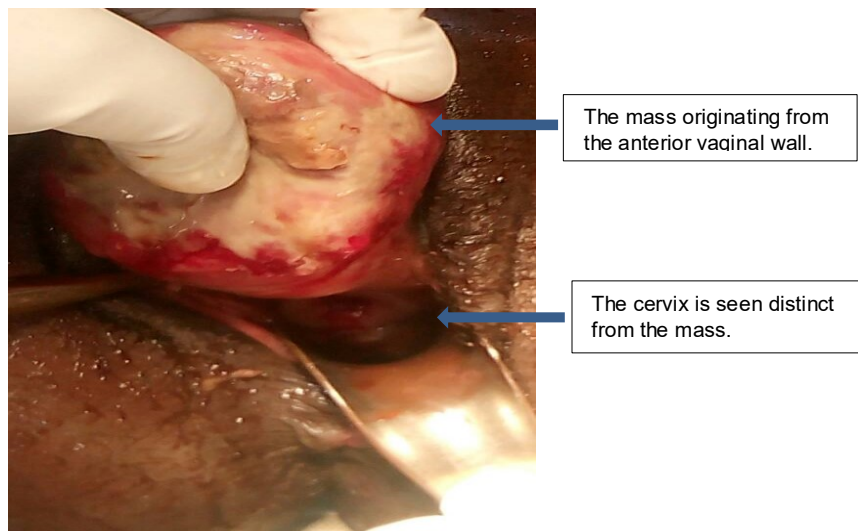


Figure 1: The vaginal mass during an examination

The patient had an examination under anesthesia, cystoscopy, and incisional biopsy. The cystoscopy findings showed prolapsed small fleshy tissue from the urethral meatus, hyperaemic urethral mucosa, and a patchy granular mucosa of the bladder from the trigone to the inferolateral wall on the left. There was no indentation of the bladder wall. A cystoscopic biopsy of the bladder mucosa was taken. The vaginal examination findings revealed an anterior vaginal wall mass measuring 10cm by 10cm and firm to touch, protruding from the introitus. The edema and slough noted at admission had markedly reduced. Bimanual examination of the

pelvic structure and rectal examination did not reveal any abnormality. An incisional biopsy of the mass was taken and the urethral tag was excised.

Histology report of the urethral biopsy revealed chronic suppurative inflammation while the bladder mucosa biopsy showed cystitis glandularis. However, the vaginal wall mass biopsy showed extensive mucosa ulceration with proliferating fascicle of spindle-shaped smooth muscle cells but no mitotic figures or necrosis was seen. The conclusion of the report showed the mass to be a vaginal leiomyoma.

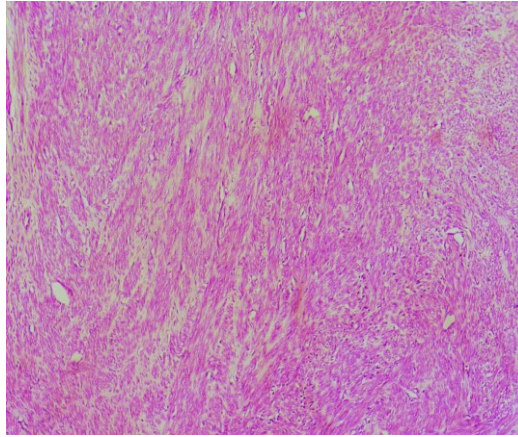
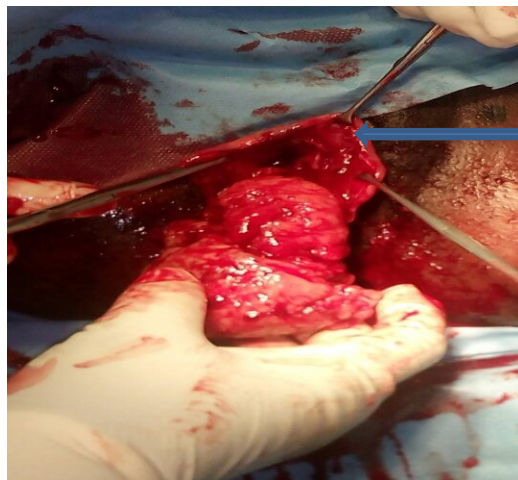


Figure 2: Microscopic image of the lesion showing spindle-shaped smooth muscle cells with eosinophilic cytoplasm.

Subsequently, she had excision of the anterior vaginal wall fibroid through the vaginal route under subarachnoid block. The urethra was catheterized, a circumferential incision was made at the base of the mass down to its capsule and

the mass was removed via further sharp and blunt dissections. The resultant defect was closed with interrupted stitches using vicryl 1 suture in double layers and there was minimal bleeding intra-operatively.



Vaginal mucosa reflected to deliver the mass.

Figure 3: The vaginal mass (leiomyoma) about to be completely excised from the vaginal wall

Mrs. AD was continued on analgesia and antibiotics and was discharged 5 days after the surgery. The follow-up visit at the clinic was uneventful.

Discussion and conclusion

Leiomyoma of the vagina is a very rare primary tumor of the vagina with only about 300 reported cases worldwide (1) and it constitutes about 4.5% of all solid vaginal tumors (2). The commonest site of vaginal leiomyoma is the anterior wall and occasionally in the lateral wall and vulvar area (3). The actual etiology is still unknown but, some researchers, however, believed that it may be due to residual embryonic vascular tissue and

smooth muscle fibers in the vaginal wall (4). It is mostly seen in women between the age of 35 to 50 years but, it has been reported in patients of pubertal age to the age of 71 years (5). Mrs. A.D had an anterior vaginal wall fibroid and is 40years old thus fits the category of women in whom this rare tumor can occur.

Vaginal leiomyoma is usually firm but, may undergo degeneration to become soft. The variation in the consistency from firm to soft makes diagnosis more difficult (3, 6). It is usually asymptomatic until it reaches a larger size (4, 7). Symptoms often vary depending on the location of the tumor and may include genital organ prolapse, dyspareunia, vaginal discomfort,

vaginal bleeding, urinary symptoms, lower abdominal pains, and low back pain (4, 7, 8).

A meticulous vaginal examination should be employed in the diagnosis of vaginal masses to differentiate various masses that can arise in the vagina. The differential diagnoses of vaginal leiomyoma include; cystocele, Gartner's duct cyst, Skene's duct cyst, Mullerian remnant cyst, epithelial inclusion cyst, ectopic ureterocoele, leiomyosarcoma, urethral, and bladder malignancy (2, 8, 9). The initial diagnosis for this patient was an infected vaginal wall cyst and a bladder tumor was also a differential. A high index of suspicion is necessary for the clinical diagnosis of this rare vaginal wall tumor.

Examination under anesthesia with biopsy of the mass and cystoscopy are very vital in arriving at a definitive diagnosis of vaginal leiomyoma as demonstrated in this case.

Cystoscopy helps rule out bladder tumors as it offers direct visualization of the bladder mucosa. It usually shows distorted bladder walls in cases of bladder tumors (10). The similarity of anterior vaginal wall leiomyoma and bladder tumor makes cystoscopy an extremely important procedure as was done for Mrs. AD. Hysteroscopy could be done in some cases to further exclude the likelihood of the mass originating from the endometrium especially in instances where the diagnosis is problematic (10). This was not done for Mrs. AD because the cervical os was seen and distinct from the mass.

A vaginal approach is the most preferred route of removal for average-sized tumors while the abdominoperineal approach is usually recommended for the larger masses that may extend into the pelvis (8, 11). It is very important to do a biopsy to rule out malignancy before proceeding on surgical excision. Recurrent vaginal leiomyoma is extremely rare and only a few cases have been reported (12). Mrs. AD was properly counseled on this uncommon complication.

Vaginal leiomyoma is an uncommon condition and may be misdiagnosed as uterovaginal prolapse or even bladder neoplasm especially when it is located in the anterior vaginal wall. The diagnostic dilemma could be easily resolved with proper examination preferably under anesthesia, biopsy, cystoscopy, and histological confirmation. We have documented this rare condition to contribute to available literature and raise awareness locally, nationally, and internationally. It is pertinent for clinicians to keep in mind some rare vaginal tumors while evaluating vaginal

masses and evaluation should not only be tailored towards common lesions.

Declarations

Ethics consideration

Written informed consent for publication was obtained from the patient whose management is being reported.

Consent for publication

The authors hereby give consent for the publication of this work under the Creative Commons CC Attribution. Non-commercial 4.0 license.

Availability of data and materials

All data generated or analyzed in this study are included in this article and are available on request.

Competing interests

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