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INTRODUCTION

Leiomyomas are one of the commonest gynecological tumors in the uterus. Rarely, they arise from unusual location in the vagina with only around 300 cases reported since 1733.

We report herein an asymptomatic vaginal myoma occupying the anterior vaginal wall. A 39-year old, nulligravid consulted when she felt a mass in the vaginal introitus. On examination, a solid mass was noted, attached to the anterior vaginal wall.

Transvaginal ultrasound showed impression of Vaginal Leiomyoma. To rule out malignancy, biopsy of the mass was done confirming leiomyoma. The patient subsequently underwent vaginal myomectomy. The treatment of choice is surgical removal through the vaginal approach. Care must be taken not to injure the urethra and bladder. The tumor should be carefully dissected off the vaginal wall and enucleated from the underlying structures.

Due to the rarity, gynecologist should be aware of the unusual location of leiomyoma.

Vaginal tumors are atypical. This includes papilloma, hemangioma, polyp and rarely, leiomyomas. These vaginal leiomyomas remain an uncommon entity with only around 300 reported cases in world literature since its first detected case back in 1733 by Denys de Leyden, Bennett and Erluch.

In 50,000 surgical specimens, vaginal myoma was found in only 9 cases, and among 15,000 autopsies reviewed at John Hopkins Hospital, only one case was found to have vaginal myoma.^[1]

Vaginal leiomyomas are commonly found in the anterior vaginal wall. It is usually asymptomatic with varied clinical presentation, depending on the site involved and its size, which may range from 0.5cm to 15cm. Manifestations may include lower abdominal pain, low back pain, vaginal bleeding, dyspareunia, urinary symptoms urinary frequency and dysuria.^[2] These are commonly seen in age group between 35 to 50 years old, and reported among Caucasian women.

CASE DISCUSSION

This is a case of a 39 year old nulligravid, who initially came at the out patient department with a chief complaint of a palpable mass in her vulvar area for one month. There were no associated symptoms such as vaginal bleeding, dysuria, or pain. No consult was done. Seven days prior, the patient consulted a private OB Gynecologist who requested for a pelvic ultrasound with the impression of vaginal leiomyoma, described as a well-defined, isoechoic solid mass measuring approximately 3.4 x 3.8 x3.0 cm, which appears to be arising from the anterior vaginal wall.

Patient has no known co-morbidities nor history of surgical operations or accidents. She has a family history of hypertension and diabetes. No history of allergies to food or medications. She is single and youngest among her three siblings, a computer programming graduate and currently a fabric cutter in a factory. She has preference and is currently living in with her 41 year-old female partner for 6 years, working as a tailor. She was previously a 5 pack year smoker and a non-alcoholic drinker.

The patient is a nulligravid. She had her menarche at 13 years old, regularly menstruating, lasting for three days, consuming two moderately soaked pads per day. No premenstrual symptoms reported. She has no history of heterosexual contact or use of contraceptives.

On physical examination, the patient is awake, alert, not in cardiorespiratory distress. Her vital signs were as follows: blood pressure of 110/70, heart rate of 80 beats per minute, respiratory rate of 20 cycles per minute, afebrile at 37 degrees Celsius. She had a fair complexion, no mass or lesions. She is normocephalic, with pink palpebral conjunctiva, anicteric sclera, no nasogastral discharge or tonsillopharyngeal congestion. She had symmetrical chest expansion, clear breath sounds, no crackles, no retractions. With adynamic precordium, normal rate, regular rhythm, no murmur noted. Breasts were symmetrical, no mass or lesions noted. Abdomen was soft, with normoactive bowel sounds, no mass nor tenderness. Patient has full equal pulses on upper and lower extremities.

Upon inspection of the genitourinary tract, the patient has a normal looking genitalia, with a visible pinkish solid mass, measuring solid 4 x 4 cm on vulvar area, protruding upon coughing or straining (Figure 1). Speculum examination revealed a pinkish cervicovaginal wall, intact nulliparous cervix, with minimal whitish discharge, no mass or polyp noted (Figure 2). On internal examination, introitus admits two fingers with ease. The previously described mass was noted to be widely connected to the anterior lower third of the vaginal vault via a wide base attachment.

The patient was subsequently admitted and underwent biopsy of the vaginal mass under intravenous sedation. The tissue was sent for histopathological examination, which confirmed presence of Vaginal Leiomyoma.

The patient underwent Vaginal myomectomy under general anesthesia, with a low risk stratification. Upon examination under general anesthesia, the mass was noted to be solid, mobile, occupying the outer half of the anterior vaginal wall measuring 6 cm in widest diameter. (Figure 1)

The anterior vaginal wall was incised and a surgical plane was developed. The tumor was dissected off the vaginal wall and enucleated from the underlying structures. After removal of the mass, the bladder was filled with 350 cc of water mixed with betadine solution and a negative leak test was noted. Hemostatic sutures were placed and the empty space obliterated. The edges of the vaginal mucosa were approximated with simple interrupted sutures. A vaginal compression was ensured for 24 hours.

On gross examination, the specimen showed a solid mass with a rough connecting surface and a smooth lower surface, measuring 4 x 4 x 4.5 cm (Figure 2)

Cut section revealed a well circumscribed, white homogenous mass with a whorled pattern. The specimen was sent for histopathologic confirmation, which is consistent of Vaginal Leiomyoma. (Figure 3)

After one month of surgery, patient returned for follow up consultation, with histopathological result consistent with Vaginal Leiomyoma. On physical examination, vaginal sutures were intact with no other subjective complaints.

Leiomyomas are benign tumors derived from smooth muscle. It is rooted from the Greek words, "leio", "mys" and "-oma", meaning smooth muscle tumor. These tumors are often referred to as fibroids or fibromyoma, as they contain various amounts of fibrous tissue arising from the Mullerian smooth muscle cells.

Leiomyomas are commonly observed in the uterus, affecting 20-30% of reproductive aged women, followed by the cervix, round ligament, uterosacral ligament, ovary, inguinal canal, and rarely, the vagina.^[3]

We are presented with a rare case of vaginal leiomyoma, arising from the anterior vaginal vault. There is currently no local tumor incidence available. However, according to a study done by Bennett and Erluch, only 9 cases were found in 50,000 surgical specimens and only one case emerged in 15,000 autopsies reviewed at John Hopkins hospital in 2011.^[4] These vaginal leiomyomas are usually seen among Caucasian women between 35 to 50 years old. While uterine leiomyomas are more common among non-Caucasian groups.^[5]

Vaginal leiomyomas typically present as a single, well circumscribed mass arising from the midline anterior wall and less commonly, from the posterior and lateral walls.^[3] These lesions are estrogen dependent and can grow rapidly during pregnancy or regress after menopause.^[6]

Vaginal Leiomyomas are commonly asymptomatic. But may have a varied clinical presentation, depending on the size and the site of attachment, such as lower abdominal pain, frequency of micturition, vaginal bleeding, or other features of urinary obstruction such as dyspareunia, pain or dysuria.^[6]

These tumors are single, benign and slow growing and may be intramural, pedunculated, solid or cystic in presentation. Its etiology is unknown though some authors have speculated that it could be due to residual embryonic blood vessel tissues and smooth muscle fiber.^[1]

Our patient presented with a 4 x 4 cm, midline mass widely attached to the lower 1/3 of the anterior vaginal vault with a wide base. Upon consult, the patient complained the presence of solid mass on vaginal introitus. No other complains were reported such as bleeding, dyspareunia, or dysuria.

Ultrasound is recommended as the first line imaging modality for vaginal masses After initial physical examination of the pelvis, a sonogram may offer all that is needed to facilitate the proper diagnosis and prevent unnecessary expensive medical procedures.^[6] However, the diagnostic preference for leiomyoma is Magnetic resonance imaging. It can estimate the extent, characterization and involvement of the mass. In Magnetic Resonance Imaging, vaginal leiomyoma typically appears as a round homogenous lesion with a signal similar to the myometrium, with multiple calcifications.^[4] The gold standard of diagnosis and beneficial to rule out any possible focus of malignancy is histopathological confirmation.^[1] In cases where malignancy is found, further surgical treatment and adjuvant management is mandatory. The histological features of leiomyosarcoma include the presence of two of the following three histological features: cytological atypia, coagulative tumor cell necrosis and 10 or more mitoses per 10 high-power microscopic fields.^[8] More recent criteria regarding the presence of coagulative tumor cell necrosis and cytological atypia are the most important features in distinguishing a benign from a malignant smooth muscle tumor.

Before her initial visit at our Outpatient department, the patient had an abdominal ultrasound done revealing a well-defined isoechoic solid mass measuring approximately 3.4 x 3.8 x 3 cm arising from the anterior vaginal wall. Upon confirmation of the presence of vaginal leiomyoma, the patient subsequently underwent Vaginal myomectomy.

Treatment of these leiomyomas is surgical removal. The vaginal approach is feasible but at times an abdominoperineal approach may be required during excision of large tumors. Reconstruction may also be considered for large defects, which may involve simple flaps or more complex myo-cutaneous flaps. These reconstructive procedures help repair anatomic defects, promote tissue healing and create a positive impact on the psychological well being, sexual functioning and quality of life of the patient.

Intraoperatively, if the vaginal route is chosen, the anatomical location will determine the surgical incision in the vagina. In this instance, the anterior vaginal wall is incised and the tumor dissected off the vaginal wall and underlying structures. Care must be taken not to injure the urethra and bladder. Surgical planes should be developed and the tumor is then carefully resected from the underlying structures. If the leiomyoma is located in the posterior aspect of the vagina, the posterior vaginal wall must be incised and the tumor carefully resected from the rectum and anal sphincter to avoid injury.

After removal of the leiomyoma, irrespective of location, hemostatic sutures should be placed and the empty space obliterated. The vaginal mucosa must be re-approximated.

Post operatively, patient should follow up for assessment of possible recurrence of the tumor.^{[2],[5]} In some studies, a 5 month follow up post operatively revealed non recurrence of the tumor.



Figure 1. On inspection of the mass under general anesthesia, there is a visible pinkish solid 4 x 4 cm mass on vulvar area.

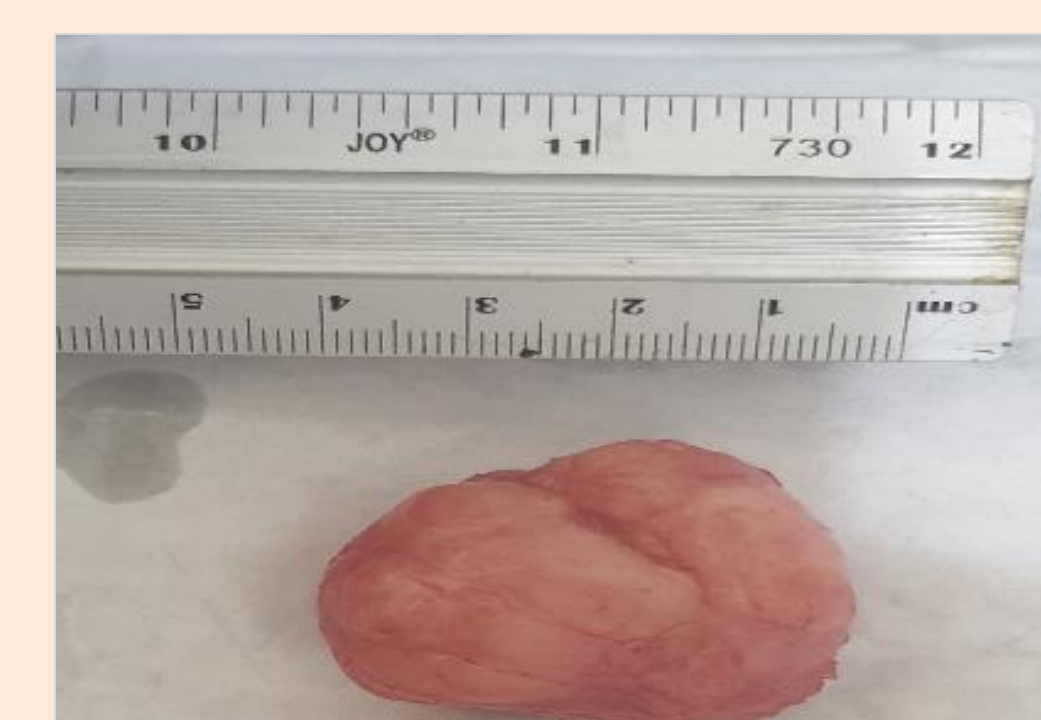


Figure 2. Upon dissection, the vaginal mass measured 4 x 4 x 4.5 cm.



Figure 3. Cut section of the vaginal mass revealed a well circumscribed, white homogenous mass with a whorled pattern, consistent of a myoma.

CONCLUSION

- This is the first case of Vaginal Leiomyoma documented in a tertiary hospital in the Philippines. Generally, vaginal leiomyomas are benign. But preoperative diagnosis is difficult and can be only be confirmed through histopathological examination.
- There are many types of leiomyoma, but this type is rare and not yet classified in the International Federation of Gynecology and Obstetrics (FIGO) leiomyoma subclassifications system. ^[10]
- In this case, the patient is treated by simple vaginal myomectomy and repair of the anterior vaginal vault.
- Follow up of the patient after 1 month revealed non-recurrence of the mass.

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