

## PRIMARY VAGINAL LEIOMYOMA- A RARE CASE SERIES

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**ABSTRACT**

Female pelvis is a quite complex region, consisting of gastro-intestinal tract, genito-urinary tract, lymphatics, blood vessels, nerves and musculoskeletal system. Primary Vaginal Leiomyoma is an uncommon benign lesion that remains unknown to many clinicians and radiologists and must be considered in the differential diagnosis of female pelvic masses in the appropriate clinical setting. These conditions pose special diagnostic challenge due to multiplicity of differential diagnoses, and difficulty to well characterize the lesions on imaging studies. This article reviews the clinical aspects of primary vaginal leiomyoma with emphasis on its clinical presentation and operative technique and its role as a differential diagnosis in a setting of patients presenting with mass per vaginum.

**KEYWORDS :** Mass per Vaginum, vaginal leiomyoma, female pelvic mass, Fibroid.

**INTRODUCTION-**

Leiomyomas are considered as benign mesenchymal neoplasms and consist of smooth muscle cells with variable amounts of fibrous stroma. Leiomyomas most commonly arise from uterus, affecting 20-30% of reproductive age group females. They are extremely rare; with only 300 such cases have been reported worldwide in literature till now, 1<sup>st</sup> case being reported in year 1773 by Denys de Leyden. Its etiology is unknown, though some authors have speculated that it could be due to residual embryonic blood vessel tissues and smooth muscle fibers [1]. These tumors are thought to arise from mullerian smooth muscle cells in the sub-epithelium of the vagina. It may occur anywhere along the vaginal canal, but are usually situated in the anterior vaginal wall. Smooth muscle tumors of the vagina usually present with a submucosal growth pattern or a pedunculated growth pattern from the anterior vaginal wall into the vaginal cavity [2]. It is usually localized, mobile, non-tender, and well circumscribed. Preoperative determination of the origin is difficult to determine, when a vaginal tumor presents to the hospital. On MRI, it is seen as a mass in relation to the vagina with signal characteristics similar to that of a uterine leiomyoma. Like other leiomyomas, they are also benign lesions; therefore enucleation is the treatment of choice.

**Case Study 1-**

A 22 year nulligravida patient, married since 3 years, presented to the outpatient department with complaints of –

Swelling over genital region since 3 years,  
White discharge on and off since 2 years,  
Lower abdominal pain since 6 months and Retention of urine since 2 months.

No history of dysuria, increased frequency of urine. No history of bowel complaints. Her medical and surgical history was unremarkable. Her menstrual cycles were normal, 3/30, regular menstrual flow. General examination was within normal limits. On per abdominal examination, 12 weeks mass felt, nontender. On per speculum examination, mass was seen bulging through anterior fornix, cervix taken up and cervical opening not seen, minimal white discharge present. On per vaginal examination, mass felt through the anterior fornix, firm in consistency, nontender, mobile, regular margins, but the upper limit of the mass could not be delineated, located about 1 cm below the external urethral meatus.

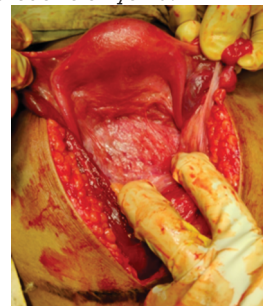
MRI is s/o a large, well defined, heterogenous altered signal intensity lesion of approximate size 10.3\*9.1\*14.0 cm, possibly

arising from the anterior wall and anterior fornix of the vagina, displacing the uterus and cervix superiorly. Bilateral ovaries are visualized and appear normal.

Patient underwent exploratory laparotomy, under spinal anesthesia, abdomen opened by midline vertical incision. In situ: uterus, fallopian tubes and ovaries appear normal. A large solid mass of size 10\*9\*14 cm identified posterior to the bladder. Vertical incision taken over anterior vaginal wall and a mass was seen arising from upper anterior vaginal wall. Mass enucleated and specimen sent for histopathological examination. Redundant vagina cut. Vagina reconstructed. Bilateral round ligament plication done. Abdomen closed in layers.

**GROSS MORPHOLOGY:**

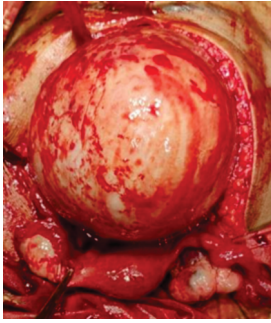
Oval grey-white firm soft tissue mass, measuring 15 \* 12 \* 6 cm. Cut section showed well-circumscribed homogenous solid firm grey-white having whorling, with smooth inner wall. HPE report- (a) Wall lining the cavity shows histological features of benign epithelial cyst. (b) Sections from solid area shows histological features of leiomyoma.



**Fig 1- Mass situated in the anterior vaginal wall**



**Fig 2: Image showing pedicle of vaginal fibroid.**



**Fig 3- Oval grey-white firm soft tissue mass, measuring 15 \* 12 \* 6 cm**

#### Case Study 2-

21 year, nulligravida came to GMCH Nagpur OPD with presenting complaints of-

Pain in abdomen since 5-6 months

Dyspareunia since 2-3 months.

No history of dysuria, increased frequency of urine. No history of bowel complaints. Her medical and surgical history was unremarkable. Her menstrual cycles were normal, 4/30, regular menstrual flow. General examination was within normal limits. On per abdominal examination- abdomen was soft, non-tender, no guarding/ rigidity. On per speculum examination, mass was seen bulging through anterior vaginal wall at the level of urethra, cervix taken up and cervical opening not seen. On per vaginal examination, cervix is pushed to the left and anteriorly. CECT (A+P) was done which was suggestive of well defined round to oval lobulated mass lesion noted in right fornix of size 7.7\*8.3\*8.9 cm arising from the cervix, consistent with cervical fibroid. Patient was then taken up for exploratory laparotomy.

On entering the peritoneal cavity-

- Uterus normal size, anteverted
- Both ovaries normal
- Mass felt lateral to bladder, hence decision of extra-peritoneal approach taken (Fig 4)
- Bladder dissected to the left
- Capsule of mass approached. A well defined grey white firm mass felt. (Fig 5)
- Lateral planes obtained, mass dissected out.
- Mass found arising from anterior vaginal wall. (Fig 6)

On gross examination, single nodular grey white mass of size 3\*7\*4.5 cm was seen, which shows areas of hemorrhages on cut surface.

HPE report is suggestive of well circumscribed tumor composed of fascicles of spindle cells. Intervening stroma is collagenous. Masson trichome staining shows fibroblastic as well as smooth muscle tissue appearance.



**Fig 4: Capsule of mass approached by extra-peritoneal route.**



**Fig 5: Image showing well defined grey white mass.**



**Fig 6: Image showing origin of mass from bladder base**

#### DISCUSSION-

Vaginal leiomyomas are usually seen in the age group of 35-50 yrs, more common in Caucasians (as compared to uterine leiomyomas, which are mostly seen in non-caucasians).

Vaginal leiomyomas usually arise from midline anterior vaginal wall. In the vagina, they commonly present along the anterior wall and next along the lateral wall. They may arise from the posterior wall and may present even after hysterectomy. They present as a single, well circumscribed mass, most are small and slow growing.

Vaginal leiomyomas are estrogen dependent tumors. These tumors can grow rapidly during pregnancy and regress after menopause. Very often diagnosis it is difficult to diagnose them preoperatively. Vaginal leiomyomas vary from 0.5 to 15 cm in diameter. They may occur anywhere within the vagina and usually arise in the smooth muscle layer of the midline anterior vaginal wall.

Vaginal leiomyomas can be asymptomatic or present with symptoms, which include lower abdominal pain, vaginal bleeding, increased frequency of micturition, dysuria, dyspareunia and other features of urinary obstruction. Symptoms depend on location and size of the tumor, many patients come with complaints of only bulging mass. The tumors are usually moderately firm, but since they may undergo degenerative changes as that occur in the uterus, they may vary in consistency from firm to soft.

Preoperatively, diagnosis by ultrasonography may be difficult, but magnetic resonance imaging usually clinches the diagnosis. In magnetic resonance imaging, they appear as well-demarcated solid masses of low signal intensity in T1- and T2-weighted images, with homogenous contrast enhancement, while leiomyosarcomas and other vaginal malignancies show characteristic high T2 signal intensity with irregular and heterogeneous areas of necrosis or hemorrhage. However, histopathological confirmation is the gold standard of diagnosis and also beneficial to rule out any possible focus of malignancy. Surgical removal of the tumor

through vaginal approach, preferably with urethral catheterization to protect the urethra during surgery, is usually the treatment of choice. In case of large tumors, however, an abdomino-perineal approach is preferred. The patient needs to be followed up for chance of recurrence. Our patient was symptom-free at 5-month follow-up.

### CONCLUSION

Vaginal leiomyomas can rarely present as mass per vagina and it should be kept in mind as a differential diagnosis. The preoperative diagnosis of this condition is difficult and can be diagnosed postoperatively with the help of histo-pathological examination and immune histochemical studies.

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