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Case Report

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Rare Case of Vaginal Leiomyoma – A Case Report

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Abstract

Vaginal leiomyomas are rare solid tumors which occur in middle aged females aged across 35 to 50 years of age. The mullerian smooth muscle cells in the sub epithelium of vagina are considered the source of the tumor. Vaginal leiomyoma most commonly arises from the anterior vaginal wall. Herein, we report the case of 53-year-old south Indian woman presenting with multiple vaginal masses with complaint of excessive bleeding per vagina. Upon examination she was found to have a mass arising from the upper one-third of the anterior vaginal wall. Ultrasonography and magnetic resonance images (MRI) revealed multiple vaginal leiomyomas. Laparoscopic hysterectomy and excision of vaginal fibroid was performed to remove the vaginal fibroids and subsequent histopathology examination confirmed a vaginal leiomyoma.

Keywords

Histopathology, Hysterectomy, Tumor, Vaginal leiomyioma, Surgery, Case report

Introduction

Leiomyomas ("leio": smooth, "myo": muscle and suffix "oma": a neoplastic condition) are the most common tumors in women [1]. They are benign smooth muscle neoplasms which may occur singly, but more often occur in multiples. Leiomyomas are also known as fibroids [2]. This is because leiomyoma cells do not rapidly divide; instead, the tumour grows mainly due to excessive production of aberrant, disorganized extracellular matrix (ECM) which in turn stems from excessive production of collagen fibre subtypes and proteoglycans [3]. This ECM peculiarity contributes to the characteristic whorled, anastomosing, and fasciculate pattern of smooth muscle bundles in the cut sections of leiomyomas, usually employed as a hallmark of clinic-pathological identification [4].

Leiomyomas usually occur in the uterus, followed by occurrences in the round ligament, the uterosacral ligament, ovaries, and inguinal canal in decreasing order of prevalence [5]. Leiomyoma in the vagina is the rarest of all [6]. Vaginal leiomyoma is an uncommonly rare entity, which is categorised as an extra-uterine pelvic leiomyoma. Approximately only 300 cases of vaginal fibroids have been reported in medical literature thus far [5]. A vaginal fibroid may occur anywhere along the vaginal canal, with the anterior vaginal wall being the most common location [3. It is usually a localized, mobile, non-tender, and circumscribed mass [2]. Though the aetiology remains unknown, MED12 mutations have recently been discovered in both uterine and extrauterine fibroid development, proving that such mutations at the genetic level can indeed be causative [7].

Vaginal leiomyoma is one of the rarer benign solid tumours occurring in the reproductive age group in females. These tumours generally originate from the anterior vaginal wall. These tumours exhibit single nodular growth pattern. The location of the tumours manifests the symptoms in the patients and include dyspareunia, abdominal pain, and dysuria. Leiomyomas elsewhere in the body can be present and should be carefully assessed. Vaginal leiomyomas are misdiagnosed easily and can be diagnosed as cystocele, urethrocele, Garner duct cysts, cervical malignancy, or even a vaginal sarcoma. The diagnosis is usually confirmed by histopathology. Here, we report the case of a vaginal wall leiomyoma.

Case Report

A 53-year-old moderately built and nourished female reported first to the OPD with complaint of excessive bleeding per vagina during menstruation since three years. On examination, vitals were stable. On per abdominal examination, she was found to have an abdominal mass of 16 weeks gravid uterine size which was non tender, firm in consistency and transversely mobile. On per speculum examination, an irregular 5 x 4 cm mass was seen in the right fornix which was not bleeding on touch. On per vaginal examination, a mass arising from the upper one-third of the anterior vaginal wall was noted, and it was freely mobile. The uterus was bulky, and of 16 weeks gravid uterine size. Transvaginal ultrasonography was then performed. A well-defined heterogenous hypoechoic lesion of size 2.2 x 1.9 cm arising from upper third of anterior vaginal wall was noted. There were associated multiple intramural fibroids of 7 cm, 5 cm, and 3 cm (Figure 1). On MRI of the pelvis, a well-defined T1, T2 hypointense nodular lesion of 23 x 17 mm was noted in the vagina which indicated a possibility of vaginal fibroid (Figure 2). A total laparoscopic hysterectomy and excision of vaginal fibroid was done under general anaesthesia and then the specimen was sent for histopathological examination (Figure 3a, 3b, and 3c). Gross examination revealed a bulky uterus with multiple fibroids and a (2 x 2 x 1 cm) fibroid mass. Microscopically, a well circumscribed mass composed of uniform smooth muscle cells with paranuclear vacuoles arranged in whorled anastomosing fascicles and bundles were seen (Figure 3d). Moreover, intervening scanty stroma was composed of fibroconnective tissue along with focal hyaline changes. These findings were consistent with diagnosis of vaginal leiomyoma (fibroid).

Discussion

Vaginal leiomyoma is a benign tumor that only occasionally affects women between the ages of 35 and 50. It usually develops as a single nodule at the anterior vaginal wall. The clinical presentation of vaginal leiomyoma is variable to a considerable extent, and the consistency of the fibroid mass on gynaecological examination may be misleading [5]. Vaginal fibroids may either stay asymptomatic or may cause pain or urinary tract symptoms [8]. They are usually seen in the age group of 35 to 50 years and are reported to be more common among Caucasian women, while uterine leiomyomas are more common among non--Caucasian groups [5, 9]. Here the patient is of south Indian descent.

Vaginal leiomyomas are usually situated in the midline anterior vaginal wall as a single, well-circumscribed mass [6]. In this instance, the mass was located in the upper third of the anterior vaginal wall. Generally, leiomyomas are asymptomatic, but can present with compressive symptoms based on their presentation. Vaginal leiomyomas are also called as "the female prostrate". Vaginal fibroid has a varied presentation which may include abnormal bleeding, urinary frequency due to retrograde translation of increased pressure onto the urinary bladder, impaired fertility, dyspareunia, dysuria, or other features of urinary obstruction [5]. The present case was reported with complaint of excessive bleeding per vagina during menstruation since the last three years.

Brown and Nagai reported a case of leioyoma related urinary retention, where the tumor originated from the urethral vaginal septum and extended along the entire urethra. Shimada et al reported a case of posterior vaginal wall leiomyoma presenting with lumbar pain as the tumor was compressing the pelvic ligaments and lumbar venous plexus.

The Differential diagnosis includes cystocele, urethrocele,

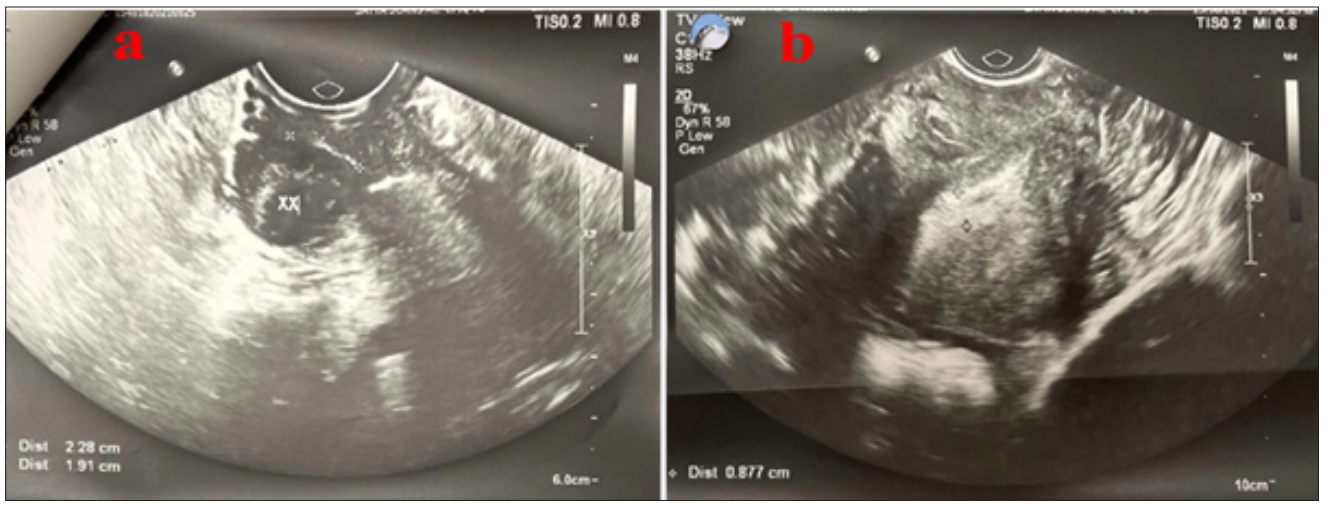


Figure 1: Preoperative abdominal ultrasonography showing **(a)** lesion (submucosal) in the upper cavity of uterus and **(b)** similar lesion in the upper third of vagina indicating the occurrence of fibroids.

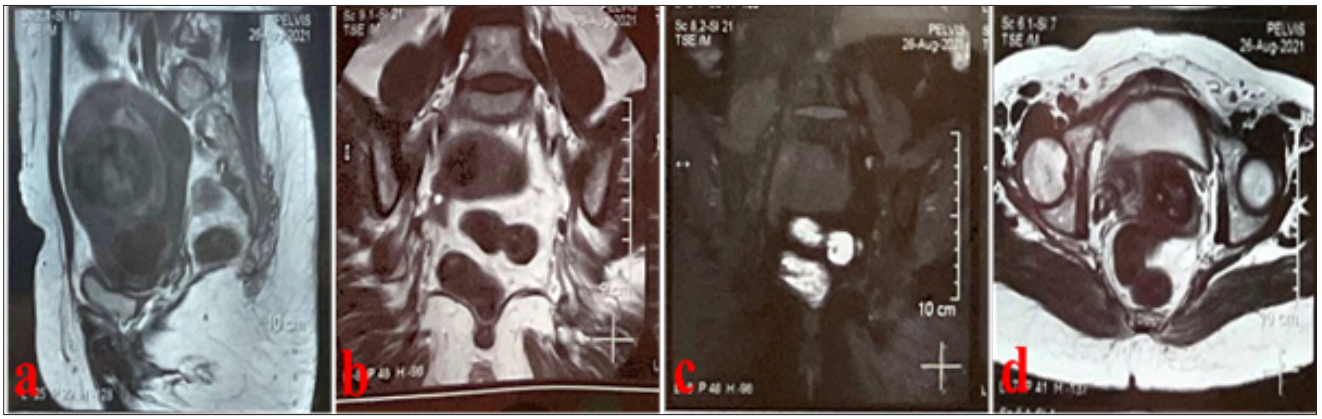


Figure 2: Preoperative MRI images showing well-defined T1, T2, and cross-sectional weighted image showing hypointense nodular lesion indicating the occurrence of vaginal fibroids.

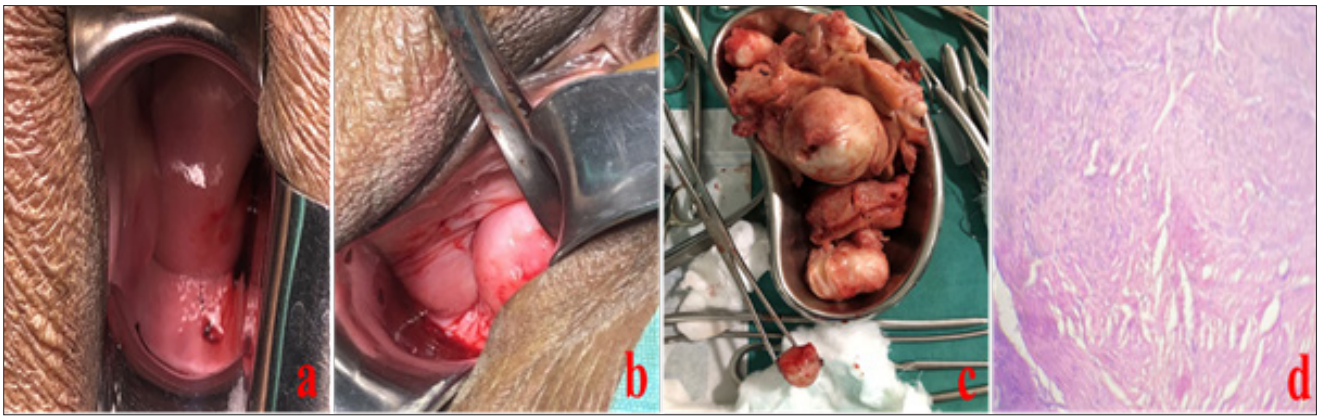


Figure 3: (a) preoperative, **(b)** intraoperative, **(c)** postoperative images of anterior vaginal mass, and **(d)** vaginal mass showing spindle-shaped cells with dense aggregatation.

Skene duct abscess, Garner duct cyst, Urethral diverticula, Vaginal cyst, Bartholin Gland cyst, and Vaginal malignancy.

Malignant transformation of leiomyoma to leiomyosarcoma is very rare, but sarcomatous transformation has been reported [8]. Preoperatively, diagnosis by radiological techniques such as ultrasonography may prove to be difficult, but MRI usually confirms or aids the diagnosis [2, 9]. The MRI scan shows vaginal fibroids as optimally delineated solid masses of low signal intensity in T1- and T2-weighted images with homogeneous contrast enhancement, while leiomyosarcomas and other such malignant conditions of the vagina show characteristic high T2 signal intensity with irregular heterogeneous areas of necrotic tissue injury or haemorrhage [3, 9, 10].

However, histopathology remains the gold standard of diagnosis, and is also helpful to detect or exclude the possibility of malignant foci [6]. Surgery is the only curative therapy. Surgery through the vagina is usually preferred due to less chances of bleeding and access for a radical excision. The abdominal route is only preferred when the vaginal route is inaccessible. The efficacy or success of surgical approach is dependent on the dimensions, gross morphological texture, and location of the fibroid. The route of surgical approach can either be abdominal or vaginal. There are reports wherein an abdominal-perineal approach has been chosen [11]. An en-masse enucleation (myomectomy) is ideal to mitigate potential recurrence and reduce proclivity for oncogenic transformation. Anterior Vaginal wall tumor carries with it the increased risk for bladder and urethral injury. Therefore, adequate measures like foley's catheterisation should be done. If needed urologist assistance should be considered.

In conclusion, despite the rare nature of occurrence of vaginal fibroid, it must be taken into consideration that it is still a diagnostic possibility. Hence care must be taken to discover and identify a vaginal tumour or mass at an early stage to mitigate the risk of malignant transformation. Vaginal fibroid may present with various symptomatic manifestations, hence eliciting a detailed patient history is optimal for timely diagnosis and treatment. En-masse myomectomy/enucleation is the ideal and currently favoured choice of treatment.

Declaration of Patient Consent

The authors declare that they have obtained the patient/subject's consent and that the consent has been documented in appropriate informed-consent forms. In the form the patient has given consent for her images and other clinically relevant information to be reported in this case report. The patient understands that her name and initials will not be disclosed, and efforts will be made to mask their identity, but total anonymity cannot be fully guaranteed.

Conflict of Interest

There is no conflict of interest.

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