Rare case of Vaginal Leiomyoma – A diagnostic challenge to surgeons and gynecologists

ABSTRACT

Aim : To present a rare case report of a large vaginal leiomyoma that was resected by combined laparoscopic and perineal approach

Presentation of case: A 33 year old lady presented with a perianal swelling . Initial evaluation showed a large mass in rectovaginal space and peri-rectal region on right side. After resection by combined laparoscopic and perineal approach, the final histopathology and immunohistochemistry were suggestive of Vaginal Leiomyoma.

Discussion: Most common extra-uterine sites for leiomyoma are broad ligament, ovarian ligament and round ligament and their incidence is <1%. Vaginal involvement is extremely rare and unusual.Its accurate diagnosis is difficult to establish by preoperative imaging.The final diagnosis can be made only from the histopathology and immunohistochemistry of the resected specimen.

Conclusion: Posterior vaginal leiomyoma is a rare tumor and high index of suspicion is essential to diagnose pre-operatively. Surgical excision remains the mainstay of the treatment.

Keywords: Vaginal Leiomyoma, Posterior Vaginal Leiomyoma, SMA, H Caldesmon ,Laparoscopic and Perineal approach

INTRODUCTION

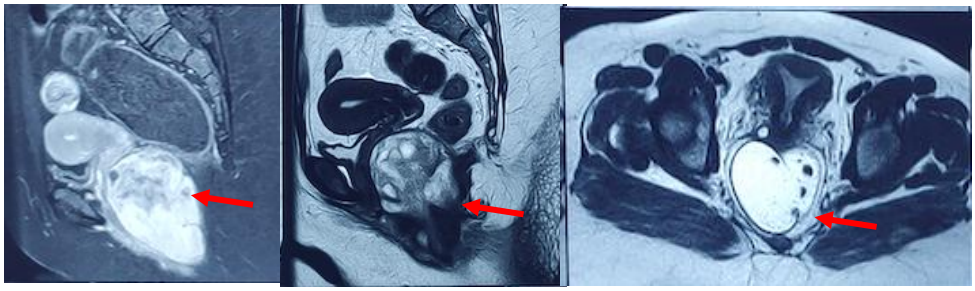
Leiomyomas are the most common gynecological disorder presenting in reproductive age group, often requiring surgery. The origin of these fibroids is smooth muscle cells of genital tract (uterus, cervix, ovaries), but can develop in any unknown location. It is a rare occurrence of primary vaginal leiomyoma and most common location of such rare tumor is anterior vaginal wall [1]. These tumours are thought to arise from Mullerian smooth muscle cells in the sub-epithelium of the vagina [2]. They may or may not be associated with leiomyoma elsewhere. These tumours often present as pain, vaginal discharge, dyspareunia, mass protruding from the vagina or urinary symptoms like dysuria , retention [3][4] .

We report a case of vaginal leiomyoma that was treated surgically, combining initial laparoscopic surgery and surgical excision through perineal dissection.

PRESENTATION OF CASE

A 33years old lady, mother of two and sterilized, presented to surgical outpatient department with complaints of perianal swelling and discomfort for a duration of 3-4 months. She also complained of increased frequency of defecation and sensation of incomplete evacuation of stools .There was no complaints of pain abdomen or dyspareunia. On local examination, a bulge was noted in the perianal region to the right of perineum. On Vaginal examination, there was fullness in the right and posterior fornix and it was non-tender. Uterine size was normal, anteverted and mobile. On Per rectal examination the mass was extending from just above anal verge, occupying 6-11^{o} clock position.The rectal mucosa was smooth and the upper extent of the mass could not be reached.

Ultrasound showed a large solid appearing lesion, measuring 9 x 5.6 x 7.8cms with multiple cystic foci. MRI pelvis showed a large lobulated T1 hypointense and T2 heterogeneously signal mass lesion in rectovaginal space and peri-rectal region on right side.(Fig A,B,C)



(A) (B) (C)

Fig 1: A, B,C – MRI images of the lesion

Fig 1: (A, B,C) showing a large lobulated T1 hypointense and T2 heterogeneously signal mass lesion in rectovaginal space and peri-rectal region on right side (Red arrow pointing the large mass)

Initial suspicion was an Extra Gastro-Intestinal Stromal Tumor (EGIST). Patient was scheduled for laparoscopic excision of this mass. Per operatively there was a large mass in the right lower para-rectal region (about 11x 9cms).There was no free fluid in the pelvis, no rectal wall or sphincter invasion. Intra-abdominal findings did not reveal any evidence of mass lesions in the pelvis. During laparoscopic surgery, uterus and bilateral adnexa appeared normal. Laparoscopic dissection on the side of the rectum was performed upto the levator ani but no mass was found, hence decision for perineal incision was made, para-rectal space was created, the mass was dissected from the rectal wall, levator ani and the sphincter and was resected en-masse. No adherence with the posterior vaginal wall was noted. The lesion measured about 14x 8x 7cms grossly. Post-operative period was uneventful.

Gross appearance of the lesion was rubbery, fleshy and cut surface with gray-white whorled appearance.(Fig 2) Histopathological examination revealed spindle cell neoplasm with

cystic changes. Immunohistochemistry (IHC) was performed (Table1). IHC was suggestive of leiomyoma with cystic change

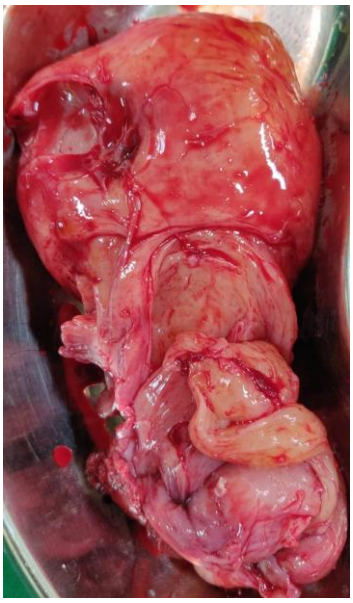


Fig 2 – Gross appearance of the lesion – fleshy with rubbery consistency.

Table 1 : Details of Immunohistochemistry for the diagnosis of the mass

Pan CK	Patchy positivity in tumor cells
Calretinin	Negative
CD 99	Negative
WT1	Negative
Glypican 3	Negative
SMA	Strong & diffuse positive in tumor cells
H Caldesmon	Strong & diffuse positive in tumor cells
Cyclin D1	Negative
B Catenin	Cytoplasmic positivity of tumor cells
C kit	Negative
Ki 67	Around 15% in areas of highest proliferation

DISCUSSION

Leiomyomas are smooth muscle tumors, dependent on estrogen stimulation, whether uterine or extra-uterine [5]. Most common extra-uterine sites for leiomyoma are broad ligament, ovarian ligament and round ligament and their incidence is <1%. These often present with vague symptoms, leading to delay in diagnosis. In our case, the location of the mass posterior to the vagina, is extremely rare and unusual. Leiomyomas of deep somatic soft tissue are spindle shaped tumors and almost all are diffusely and strongly positive for SMA

and desmin. These tumor cells are often not positive for KIT, but mast cells within the tumor are strongly KIT positive [6], and are commonly positive for oestrogen receptor and progesterone receptor proteins.

Vaginal leiomyomas are often single and slow growing . Anterior vaginal wall tumours may also present with urinary symptoms & often misdiagnosed as tumours arising from urethra or paraurethral diverticulum [7]. Various cases of vaginal leiomyoma reported in literature emphasize on high index of suspicion, especially in well circumscribed lesions in anterior vaginal wall, ischiorectal fossa, perianal region presenting with similar symptoms as our index case. Variation in consistencies of these masses often confuses and complicates the clinical diagnosis. Anatomical location of the tumor, as defined by clinical examination and radiological assessment aid in deciding the approach of surgery. However, in most cases, vaginal route is preferred due to easy approach to the tumor [8] [9].

In our case, as the mass was located posterior and lateral to the vaginal wall and no prior anticipation of vaginal leiomyoma, incision was made to the right of perineum, vaginal involvement was not encountered. Mass was resected in toto. Surgical excision remains the mainstay of the treatment in such cases and histopathologic examination with IHC reveals the type of pathology. These lesions are rare & their malignant potential must be determined & hence must be carefully evaluated for cytologic atypia & mitotic activity & necrosis [10].

CONCLUSION

Posterior vaginal leiomyoma is a rare tumor occurrence and high index of suspicion is essential to diagnose pre-operatively. Clinical examination , diagnostic imaging such as ultrasonography and MRI are useful aids in planning the approach to surgical excision. Immunohistochemistry to derive at final diagnosis is of utmost importance and for exclusion of malignancy.

Ethical Approval:

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

Consent

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

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