



Diagnostic Dilemma: A Rare Case of Broad Ligament – Cystic Degeneration Leiomyoma

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Abstract

Introduction: Leiomyomas are common uterine benign tumors of uterus and female genital tract accounting for approximate 20- 30% of cases. Leiomyomas can be intra-uterine or extra-uterine. Extra-uterine origin is rare and etiology is unclear, therefore have nonspecific presentations hence pose clinical and diagnostic challenges.

Case report: A 49 year old Mrs. Z, P2L2 came with complaints of lower abdomen pain in right iliac fossa for 2 years.

On bimanual examination – Uterus size could not be made out with right forniceal fullness with no forniceal tenderness.

Ultrasound abdomen and pelvis - revealed single lobulated hypoechoic lesion in the right adnexa measuring 7.2 x 6.2cms s/o sub serosal fibroid.

Total abdominal hysterectomy+ Bilateral Salpingo oophorectomy was done under spinal anaesthesia. Intraoperatively we visualized multiple venous plexus on the right side of uterus as it was supplying to the fibroid but after meticulous dissection we came to know that the venous plexus are broad ligament severe cystic degeneration fibroid. As we proceed we completely delineate the degenerated cystic fibroid from its attachment without any injury to ureter. There was no distortion of the ureteric course which doesn't need DJ stenting intra operatively. They have been removed and sent for histo pathological examination.

Histopathology report: Confirmed it as broad ligament fibroid with cystic degeneration.

Cervix – Chronic cervicitis

Uterus – Non atypical endometrial hyperplasia

Conclusion: Broad ligament fibroids mimic adnexal masses on clinical and radiological examination. High degree suspicion and to keep solid adnexal and uterine mass as differential diagnosis is must. It is recommended to have DJ stenting if needed to avoid surgical complications and one should be very careful about ureteric course and surrounding structures.

Keywords: Broad ligament, DJ stenting, Leiomyoma.

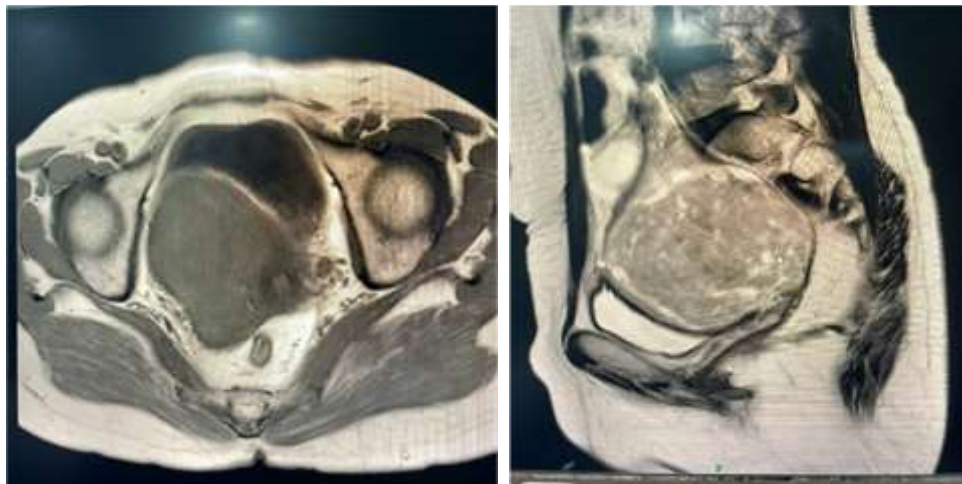
INTRODUCTION

Leiomyomas are common benign tumors of female genital tract accounting for approximate 20- 30% of cases^{1,2}. They can be intra-uterine or extra- uterine. Extra-uterine origin is less common (1%)². Broad ligament fibroids are classified as true or false (pseudo-broad ligament) fibroids³. True broad ligament fibroids originate from the smooth muscle fibres within the broad ligament itself, whereas false broad ligament fibroids arise from the lateral uterine wall or cervix and subsequently expand into the broad ligament^{3,5}. The clinical presentation depends on the size, location, and direction of

tumor growth. Patients may present with chronic pelvic pain, abdominal distension, menstrual disturbances, urinary frequency, constipation, or pressure symptoms. However, many patients remain asymptomatic until the lesion attains a considerable size⁶. Preoperative diagnosis is often difficult because broad ligament fibroids closely mimic ovarian neoplasms, tubo-ovarian masses, broad ligament cysts, and other retroperitoneal pelvic tumors. Clinical examination and ultrasonography may not accurately identify the site of origin, particularly when degenerative changes are present⁷. Magnetic resonance imaging (MRI) is considered the most useful imaging modality for evaluating broad ligament fibroids because it accurately demonstrates the relationship between the tumor, uterus, ureter, ovaries, and pelvic vessels, thereby facilitating preoperative surgical planning. Nevertheless, the definitive diagnosis is frequently established only during surgery⁸. Therefore, have nonspecific presentations hence pose clinical and diagnostic challenges.

CASE REPORT

A 49 years old Mrs. Z, P2L2 came with complaints of lower abdomen pain in right iliac fossa since 2 years which was insidious in onset gradually has progressed to the present size since 2 years. There was a history of prolonged, heavy menstrual bleeding since 2 years. No bladder and bowel disturbances were noted. No history of weight loss. She had 2 normal vaginal deliveries and was non tubectomised. On general examination, the patient was afebrile and hemodynamically stable. On abdominal examination, there was a uniform mass of 12 -14 weeks of gravid uterus appears to be arising from the pelvis. On bimanual examination–Uterus size was bulky with right forniceal fullness with no tenderness. USG abdomen and pelvis ,MRI Pelvis showed single well defined lobulated mass in right adnexa measuring 7.2x7.8x5.9cms probably arising from right lateral wall of uterus s/o sub serosal / broad ligament fibroid. Given the large size of fibroid we decided in favour of surgical management. Total abdominal hysterectomy with bilateral salpingo-oophorectomy with DJ Stenting was planned under Spinal anaesthesia considering the broad ligament.



Intraoperative findings

Multiple dense venous plexus on the right side of uterus were noted as it was supplying to the fibroid. Myomectomy was done considering the broad ligament fibroid which featured cystic degeneration too. As we proceed we completely delineate the degenerated cystic fibroid from its attachment without any injury to ureter. Hence DJ stenting was deferred intra operatively. The broad ligament fibroid and uterus with bilateral fallopian tubes and ovaries have been removed and sent for histo- pathological examination. Antibiotics and supportive treatment were given and postoperative period was uneventful. Patient was discharged on post operative day 5. Patient resumed her normal activities within one month with no complaints.



DISCUSSION

Broad ligament leiomyomas are uncommon extrauterine leiomyomas, accounting for less than 1% of all uterine fibroids⁹. They may be classified as true broad ligament fibroids, arising from the smooth muscle fibres of the broad ligament, or false broad ligament fibroid, which originate from the lateral uterine wall and subsequently grow into the broad ligament⁹. In the present case, radiological findings suggested a broad ligament/subserosal leiomyoma arising from the right lateral uterine wall, which was confirmed intraoperatively.

Broad ligament fibroids often present a diagnostic challenge because they can mimic ovarian neoplasms, Tubo-ovarian masses, broad ligament cysts, or retroperitoneal tumors⁶. Clinical examination usually reveals a lateral pelvic mass with displacement of the uterus¹⁰. Imaging modalities such as ultrasonography and MRI improve diagnostic accuracy; however, the exact origin of the mass is occasionally established only during surgery¹¹. MRI is particularly useful because it better delineates the relationship of the tumor with the uterus, ovaries, ureters, and pelvic vessels and helps in preoperative planning¹².

The major surgical concern in broad ligament leiomyomas is distortion of pelvic anatomy¹⁰. As these tumors enlarge, they displace the ureter laterally and inferiorly while stretching the uterine and ovarian vessels over the tumor surface⁹. Consequently, ureteric injury and massive haemorrhage remain the most feared intraoperative complications¹³. Dense venous plexuses surrounding broad ligament fibroids have been described in the literature and may significantly increase blood loss during surgery¹³. In the present case, extensive venous channels were encountered over the right lateral uterine wall, necessitating meticulous dissection and stepwise vascular control.

Because of the anticipated distortion of ureteric anatomy, prophylactic ureteric stenting was planned preoperatively¹³. Although prophylactic double-J stenting may facilitate intraoperative ureteric identification in selected complex pelvic surgeries, evidence supporting its routine use remains limited¹³. Several studies suggest that prophylactic stenting does not consistently reduce ureteric injury rates but may assist surgeons in difficult cases involving large cervical or broad ligament fibroids, severe endometriosis, or extensive pelvic adhesions. In the present case, careful intracapsular myomectomy enabled complete delineation of the ureter from the fibroid capsule, allowing preservation of the ureter without the need for ureteric stenting¹³. This highlights that intraoperative assessment should guide the final decision regarding ureteric stenting.

Another notable finding in this patient was cystic degeneration of the leiomyoma. Degenerative changes occur when tumor growth exceeds its vascular supply¹¹. Hyaline degeneration is the most common type, whereas cystic degeneration occurs in approximately 4% of leiomyomas¹⁰. Cystic degeneration may alter the radiological appearance, causing the lesion to resemble an adnexal cystic neoplasm and increasing diagnostic uncertainty¹⁰. Recognition of these imaging characteristics is therefore important to avoid misdiagnosis¹².

The decision to perform myomectomy before hysterectomy proved advantageous in this case¹⁰. Enucleation of the broad ligament fibroid first restored normal pelvic anatomy, facilitated identification of the ureter and surrounding vascular structures, and simplified completion of hysterectomy with bilateral salpingo-oophorectomy. This surgical strategy has been recommended in several reports for large broad ligament fibroids to minimize haemorrhage and reduce the risk of ureteric injury.

Histopathological examination confirmed a benign leiomyoma with cystic degeneration. The patient had an uneventful postoperative recovery and resumed normal daily activities within one month, emphasizing that favourable outcomes can be achieved with meticulous surgical planning, thorough understanding of pelvic anatomy, and careful intraoperative dissection.

CONCLUSION

Broad ligament fibroids mimic adnexal masses on clinical and radiological examination. High degree suspicion and to keep solid adnexal and uterine mass as differential diagnosis is must. Careful intracapsular dissection, early identification of ureter, meticulous hemostasis are essential to minimize intraoperative complications. It is recommended to have DJ stenting if needed to avoid surgical complications and one should be very careful about ureteric course and surrounding structures.

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