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**Case Report**

# A rare case of true broad ligament fibroid in postmenopausal women: a minimally invasive approach

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## ABSTRACT

Uterine leiomyomas are the most common benign tumors of the female reproductive tract, but broad ligament fibroids are rare, comprising less than 1% of cases. We report a case of a 62-year-old postmenopausal woman presenting with dull abdominal pain and backache. Clinical examination revealed a mobile pelvic mass consistent with a 12-week gravid uterus. Imaging suggested a right adnexal lesion, possibly a complex ovarian cyst or exophytic fibroid, with associated right-sided hydroureteronephrosis. Diagnostic laparoscopy identified a true broad ligament fibroid measuring approximately 6×6 cm. The patient underwent total laparoscopic hysterectomy with bilateral salpingo-oophorectomy and fibroid excision. Histopathology confirmed leiomyoma. Broad ligament fibroids can mimic adnexal masses and pose diagnostic challenges. Laparoscopic excision is a safe and effective treatment in experienced hands.

**Keywords:** Broad ligament fibroid, Postmenopausal, Leiomyoma, Laparoscopy, Adnexal mass

## INTRODUCTION

Uterine fibroids are the most common benign tumors in women, typically originating from the myometrium. Extrauterine fibroids are rare, with the broad ligament being the most frequent site, followed by the round ligament, ovarian ligament, and ovaries.[1] Broad ligament fibroids account for less than 1% of all fibroid cases.[2] These fibroids are classified as either true or false. True broad ligament fibroids arise from smooth muscle elements within the broad ligament, with the ureter and uterine vessels located medially.

In contrast, false broad ligament fibroids originate from the uterus and grow into the broad ligament, with these structures displaced laterally.[3] Although often asymptomatic, broad ligament fibroids may cause pelvic pain, abdominal distension, or pressure symptoms depending on their size and location. Large fibroids may mimic ovarian neoplasms, complicating preoperative diagnosis.[4] Surgical excision remains the primary treatment, though operative planning is often complex due to the proximity of surrounding pelvic structures. Minimally invasive approaches like laparoscopy are effective and increasingly preferred when performed by experienced surgeons5. We present a rare case of a true broad ligament fibroid in a postmenopausal woman, highlighting diagnostic challenges and successful laparoscopic management.

## CASE REPORT

We report the case of a 62-year-old postmenopausal woman who presented to the Gynecology outpatient department with complaints of dull, aching abdominal pain and associated backache for the past six months. She had no urinary or bowel disturbances and denied any history of weight loss. The patient had three prior vaginal deliveries, with her last childbirth occurring 33 years ago. She had attained menopause 17 years prior and reported no episodes of postmenopausal bleeding or spotting. There was no family history of uterine fibroids or malignancies of the breast, ovary, or colon. On general examination, the patient was hemodynamically stable. Abdominal

examination revealed a firm, non-tender, regularly contoured pelvic mass equivalent to a 12-week gravid uterus, with its lower border not clearly defined. Speculum examination showed a healthy cervix and vagina. Bimanual pelvic examination confirmed a mobile, firm uterus of approximately 12-week size, with fullness noted in the right fornix but without tenderness.

***Investigations***

Transabdominal and pelvic ultrasound revealed a well-defined heterogeneous hypoechoic lesion in the right adnexal region measuring 5.5×4.7×4.4 cm, suggestive of either a complex right ovarian cyst or an exophytic uterine fibroid. The right ovary was not separately visualized, while the uterus and left ovary appeared normal in size and echotexture. Contrast-enhanced computed tomography (CECT) of the abdomen and pelvis showed a mildly enhancing hypodense lesion in the right adnexa measuring 5.5×5.9×5.1 cm, raising the possibility of an exophytic subserosal fibroid. Associated right-sided hydronephrosis was also noted. Routine hematological and biochemical investigations, including tumor marker CA-125, were within normal limits. The patient was planned for laparoscopic management after appropriate preoperative evaluation and counselling.

***Intraoperative findings and surgical management***

A total laparoscopic hysterectomy with bilateral salpingo-oophorectomy (TLH with BSO) was planned and performed under general anesthesia with informed consent. The patient was placed in the lithotomy position, and pneumoperitoneum was established.

A 10 mm supraumbilical port was inserted for the laparoscope, along with four accessory 5 mm ports. Intraoperative assessment revealed a normal-sized uterus and a well-encapsulated 6×6 cm fibroid located within the right broad ligament, consistent with a true broad ligament fibroid. Both fallopian tubes and ovaries appeared grossly normal. The right round ligament and infundibulopelvic ligament were stretched over the fibroid. The right ureter was identified running medially to the mass, confirming its extrauterine origin.

Dissection was initiated by incising the peritoneum anterior to the fibroid using harmonic scalpel energy. The fibroid was enucleated using a combination of sharp and blunt dissection, with a myoma screw providing counter-traction. The feeding vessel at the base was coagulated and transected using bipolar cautery and harmonic scalpel.

After enucleation, the ureter was re-identified to confirm its integrity. TLH with BSO was then completed. The fibroid, uterus, tubes, and ovaries were retrieved vaginally using a coring technique. The vaginal vault was closed via endoscopic suturing. The patient's postoperative recovery was uneventful, and she was discharged on postoperative day five in stable condition.

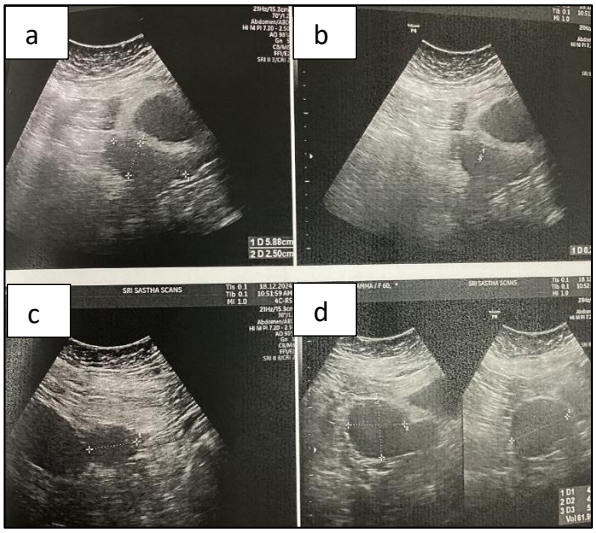


**Figure 1 (a-d): CT abdomen and pelvis showed mildly enhancing hypodense lesion in right adnexa 5.5×5.9×5.1cm possibly exophytic subserosal fibroid with right HUN.**

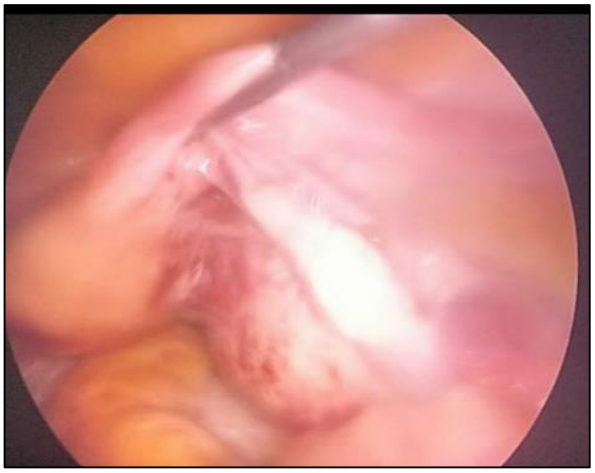

**Figure 2: Intra op image showing a true broad ligament fibroid.**

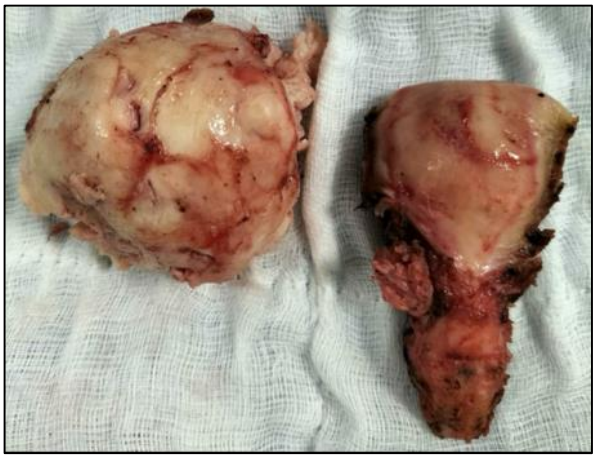

**Figure 3: Gross specimen of broad ligament fibroid and uterus with cervix.**

## DISCUSSION

Broad ligament fibroids are a rare variant of uterine leiomyomas, accounting for less than 1% of all cases.[2] They are further classified as true or false, depending on their origin. True broad ligament fibroids arise de novo from smooth muscle elements within the broad ligament, while false types originate from the uterus and extend laterally into the broad ligament.[3] Accurate preoperative identification remains challenging due to their close proximity to pelvic structures and overlapping imaging features with ovarian tumors.[6]

In postmenopausal women, any pelvic mass raises concern for malignancy, making differential diagnosis crucial. Imaging techniques such as ultrasound and CT may suggest the location and nature of the lesion, but even advanced modalities can misclassify broad ligament fibroids as adnexal masses.[7] In our case, both ultrasound and CT scans could not definitively distinguish between a complex ovarian cyst and an exophytic fibroid. Surgical management remains the treatment of choice, especially for symptomatic or enlarging fibroids. The proximity of broad ligament fibroids to vital structures-particularly the ureter, bladder, and iliac vessels-poses significant surgical challenges. Laparoscopic excision, however, offers advantages such as reduced blood loss, faster recovery, and shorter hospital stay when performed by experienced surgeons.[5,8] This case emphasizes the importance of careful preoperative planning, intraoperative ureteral identification, and meticulous dissection techniques to ensure safe and effective management of such rare presentations.

## CONCLUSION

True broad ligament fibroids are rare, often mimicking adnexal masses and posing diagnostic and surgical challenges. This case demonstrates that with careful preoperative evaluation and a skilled minimally invasive approach, even complex extrauterine fibroids in postmenopausal women can be managed safely and effectively via laparoscopy.

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