



A CASE OF LARGE BROAD LIGAMENT FIBROID IMITATING OVARIAN TUMOR

Obstetrics & Gynaecology

Dr. Rachana S. Barkale*	Junior Resident, Department of OBGY, LTMMC and GH, Sion, Mumbai. *Corresponding Author
Dr. Vibha S. More	Head of unit, Associate Professor, Department of OBGY, LTMMC and GH, Sion, Mumbai.
Dr. Swarada Kulkarni	Assistant Professor, Department of OBGY, LTMMC and GH, Sion, Mumbai.
Dr. Pradnya Chagede	Additional Associate Professor, Department of OBGY, LTMMC and GH, Sion, Mumbai.
Dr. Aditi Ramugade	Junior Resident, Department of OBGY, LTMMC and GH, Sion, Mumbai.

ABSTRACT

Due to its uncommon location, extra-uterine leiomyoma presents an extremely rare condition, leading to diagnostic challenges and surgical complications. In this report, we highlight a case involving a substantial broad ligament leiomyoma measuring 14.1cm×11.7cm×10.1cm in 41-year-old premenopausal women that was diagnosed incidentally and was managed with challenges.

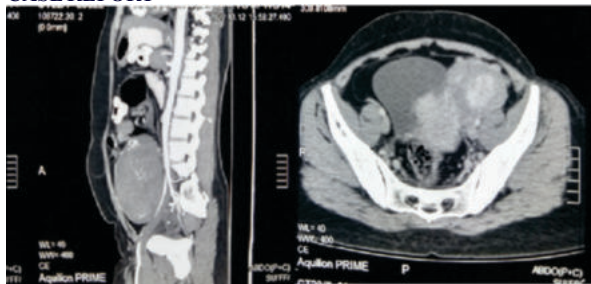
KEYWORDS

Broad ligament, leiomyoma, true broad ligament fibroid

INTRODUCTION

Leiomyoma is the benign, monoclonal tumor of the smooth muscle cells of the myometrium. Among all leiomyomas, the broad ligament stands out as the most prevalent extrauterine site, boasting an incidence of less than 1% [1]. While typically asymptomatic, failure to address these may lead to their size growing significantly, resulting in chronic pelvic pain and dysfunction related to compression of the bowel and bladder. Due to its infrequent occurrence, it can lead to incorrect diagnoses and pose challenges in its management. In this report, we present an exceptional instance of an enormous broad ligament fibroid that mimics an ovarian tumor, posing significant diagnostic challenges and was managed with an elaborate surgery due to its close proximity to vital organs and blood supply.

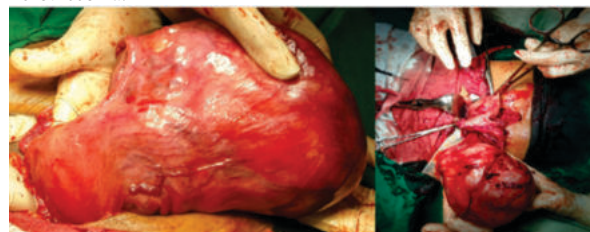
CASE REPORT



[Fig 1: MRI findings]

41 years old lady, P3L4, came with complaints of abdominal discomfort with missing copper T. It was not associated with menstrual complaints/bowel or bladder dysfunction/fever/anorexia/weight loss. On examination patient was afebrile, vital parameters were stable. On per abdominal examination, 18 weeks size mass appearing to be arising from the pelvis was found which was of firm consistency with limited side to side mobility. On per speculum examination, cervix and vagina were healthy. Copper T threads were not visualized. On per vaginal examination, pelvi-abdominal mass felt of around 18 weeks size extending horizontally from center to left side. Left fornical fullness was present but it was non tender. Uterus pushed towards right side. Right fornix was free. Ultrasonography of abdomen and pelvis was done to locate IUCD which was found to be in situ. There was an incidental diagnosis of a solid heterogeneously enhancing pelvic-abdominal mass of size 10×11×10cms seen in the midline towards left side displacing left ovary superiorly suggestive of ovarian neoplastic etiology. MRI showed a solid heterogeneously well defined, lobulated,

pelvic-abdominal mass of size 11.7×10.1×14.1 cms in pelvis midline and extending towards left side and into the lower abdomen upto upper border of L5 vertebra. It was seen displacing left ovary posteromedially, superolaterally displacing bowels, inferiorly abutting and compressing dome of urinary bladder with maintained fat planes in between. Ureter was seen slightly displaced laterally with maintained fat planes in between. There was no evidence of hydronephrosis or hydroureter. Blood supply was found to be from internal iliac artery. MRI findings were suggestive of differentials of Broad ligament fibroid or left ovarian lesion like fibroma/fibrothecoma.



[Fig 2: Intraoperative image showing left sided broad ligament fibroid]

CA 125 was done and it was within normal limit. Decision was to do preoperative embolization followed by exploratory laparotomy. But preoperative embolization could not be done due to financial issue. During exploratory laparotomy midline vertical incision was taken and abdomen was opened in layers. Intraoperative findings include uterus of normal size; 12×14×10 cms size fibroid noted in left broad ligament with left sided round ligament stretched over the mass; bilateral ovaries and fallopian tubes were normal. Left sided round ligament was clamped, cut and ligated. Normal saline diluted solution of vasopressin (20 units in 200 ml NS) injected into left lateral wall of uterus and into the broad ligament. Both anterior and posterior leaflets of broad ligament separated from the fibroid, prominent vessels over fibroid ligated. After identifying the plane of cleavage, a gentle enucleation of the fibroid was performed, following its capsule closely while ensuring the dissection remained intracapsular and adjacent to the myoma to prevent any risk of ureter injury. The mass was separate from uterus and blood supply was mainly from pelvic vessels. Haemostatic sutures were taken over base of the fibroid wherever needed. Then total abdominal hysterectomy with bilateral salpingectomy was done. The mass was sent for histopathological examination which was suggestive of leiomyoma. Patient stable postoperatively and sent home on postoperative day 5.

DISCUSSION

Broad ligament leiomyoma is a benign tumor of smooth muscle origin, developing either from the hormone-sensitive smooth muscle in the broad ligament or as a secondary growth arising from the uterine smooth muscle. [2]. Usually, asymptomatic. With the capacity to reach an enormous size, this leiomyoma has the potential to manifest as vague, chronic pelvic pain, accompanied by bladder and bowel dysfunction. Broad ligament fibroids can be categorized into two types: true broad ligament fibroids and false broad ligament fibroids. [3] True broad ligament fibroids originate from the muscle fibers that are typically present in the mesometrium. Importantly, they have no connection with the uterus, and in cases like the one presented here, the ureter lies medial to the fibroid. False broad ligament fibroids predominantly originate from the lateral walls of the uterus or cervix and are characterized by having a pedicle that connects them to the uterus. In cases like this, the ureter lies lateral to the cervix in relation to the fibroid. Its differentials include 1) Pedunculated subserosal leiomyoma projecting towards the broad ligament 2) False broad ligament fibroid 3) Solid ovarian neoplasms: Particularly those with dominant fibrous like ovarian fibroma or fibrothecoma 4) Broad ligament cyst 5) lymphadenopathy. The diagnosis always poses a challenge. Ultrasonography is the primary and routine modality utilized for detecting extrauterine leiomyomas due to its high usefulness in this context. Transvaginal ultrasound can be valuable in diagnosing broad ligament fibroids as it enables clear visual separation of the uterus and ovaries from the mass, providing helpful insights for accurate identification. During pelvic ultrasound, a broad ligament fibroid typically appears as a hypoechoic, solid, and well-circumscribed adnexal mass. However, in larger fibroids, the appearance can become more heterogeneous. The multiplanar imaging capabilities of MRI render it highly valuable in distinguishing broad ligament fibroids from masses originating from the ovaries or fallopian tubes, as well as from broad ligament cysts. Additionally, MRI can aid in identifying the feeder vessel supplying the fibroid. Ureterocystography can be considered to locate proper course of ureter and plan DJ stenting preoperatively if required. Because of its close proximity to vital organs such as ureters, intestines, urinary bladder surgery is challenging. Excision of broad ligament fibroid is associated with risk of injury to these vital organs and concealed haematoma formation. During the intraoperative phase, proactive measures should be implemented to minimize potential complications. Throughout the procedure, close monitoring of the ureter is essential. To reduce intraoperative bleeding in broad ligament fibroids, vasopressin can be routinely administered, or alternatively, preoperative arterial embolization can be considered based on the identification of the feeder vessel. For fibroids near uterine vessels and ureter, accordingly take incision on anterior or posterior leaf of broad ligament. Blunt dissection is feasible. When using cautery for dissection, cautious measures are essential to reduce the potential for thermal injury to nearby structures, especially the uterine vessels and ureter. After fibroid enucleation, the next step involves securing haemostasis with sutures at the base of the myoma, followed by the reconstruction of the broad ligaments and round ligaments, concluding the procedure. Minimal access surgeries can also be performed. For women who do not wish to conceive in the future and face medical conditions that heighten surgical risks, uterine artery embolization (UAE) stands as a commendable non-surgical alternative.

CONCLUSION

Extrauterine fibroids occur infrequently and usually mimic ovarian neoplasms on radiological investigations. So high index of suspicion is needed for their diagnosis. During surgery, utmost care should be exercised concerning the course of the ureter and neighbouring organs. Prior to hysterectomy, performing myomectomy allows for the decompression of the mass, thereby facilitating the subsequent surgery. Incision of the round ligament is essential to get entry to myoma. Dissection of myoma should be kept intracapsular to avoid injury to ureter and base of the myoma. Securing haemostasis at the bed of the myoma can be achieved by simple suturing or if needed by internal iliac artery ligation. In cases of pelvic masses with normal uterus and ovaries, it is essential to consider the possibility of an extrauterine fibroid in the differential diagnosis. A well-structured surgical plan is crucial for the smooth and successful management of such cases.

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