

Case Report

Is it an Ovarian Tumor or Broad Ligament Leiomyoma?

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Abstract

Uterine leiomyomas, also known as myomas or fibroids, are by far the commonest benign uterine tumours. It is the most common uterine neoplasm they are usually diagnosed on physical examination. Myomas and fibromyomas are not uncommon in the round, ovarian and broad ligaments, they are found in association with similar uterine tumours and their pathology and complications are the same as fibroids. Fibroids in the broad ligament though not so common, but are well known for achieving enormous size; which may mimic a malignancy of the pelvis thereby altering the course of treatment offered.

A 53 years old lady, biparous, with previous 1 normal delivery and 1 cesarean section, menopausal 1 year ago, presented to our clinic for regular check-up. She had no history of pelvic pain, anorexia, weight loss or any bowel or bladder complaints. She is not febrile and vitals were within normal range. General physical examination was unremarkable. Examination of the abdomen revealed a soft abdomen with no palpable mass or abdominal or pelvic tenderness upon palpation.

Examination of the vagina with speculum: the vagina appeared healthy on gross visualisation and cervix looked atrophic with mild deviation to left side. No abnormal discharge was seen.

Ultrasonography of pelvis revealed a well-defined heterogeneous right adnexal mass of 4.3 cm × 3.26 cm solid was noted.

MRI showed a 38 mm × 39 mm isointense in both T1 and T2 right adnexal mass with an impression of fibrothecoma. Serum Ca -125 (cancer antigen) turned out to be 31 U/mL.

The appearance of the mass on ultrasound and MRI raised the suspicion of an ovarian tumour and the decision for exploratory laparoscopy with possible right oophorectomy with frozen section was taken laparoscopic revealed a cystic mass arising from the right broad ligament. Histopathological examination revealed a broad ligament leiomyoma. Broad ligament leiomyoma is uncommon tumour of pelvis and its differentiation from ovarian masses may be challenging for the clinicians.

Keywords: Broad ligament leiomyoma; Laparoscopy; Pelvic ultrasound

Introduction

Leiomyoma is a smooth muscle tumour that turns into cancer in 0.1% of the cases [1]. It occurs in 20% to 30% of women older than 35 years old and represents the most common uterine neoplasm [1]. Uncommonly, it can be found in extra uterine locations such as the broad ligament, cervix or it can exist as diffuse leiomyomatosis [2]. Despite that broad ligament is the most common site, it exists only in less than 1% of cases (2:3). It is divided into 2 types:

a) False broad ligament tumour: which is a uterine tumour expanding to the broad ligament. b) True or primary broad ligament tumour arising from the subperitoneal connective tissue of the ligament [4]. While in most cases broad ligament leiomyomas are asymptomatic, patients may present with pelvic pain or a palpable mass as a result of pressure effects on adjacent organs [5].

Therefore, in most of the cases imaging such as ultrasound, CT

scan, and MRI are the main diagnostic tools.

Here we present a case of broad ligament leiomyoma misdiagnosed as ovarian mass, managed by laparoscopy.

A 53 years old lady, biparous, with previous 1 normal delivery and 1 cesarean section, menopausal 1 year ago, presented to our clinic for regular annual check-up. While interrogating her, she denied history of pelvic pain, anorexia, weight loss or any bowel or bladder complaints. She is not febrile and vitals were within normal range. General physical examination was unremarkable.

Examination of the abdomen, revealed soft abdomen with no palpable mass or abdominal or pelvic tenderness upon palpating her.

Examination of the vagina, before pap smear swab, the vagina appeared healthy on gross visualisation and cervix looked atrophic with mild deviation to left side. There was no discharge or vaginal bleeding. She asked for a check-up ultrasound as her sister died from an ovarian cancer. Ultrasonography of pelvis showed a well-defined heterogeneous right adnexal mass of 4.3 cm × 3.26 cm. A decision for further workup on a post-menopausal lady with an ovarian mass was taken. MRI showed a 38 mm × 39 mm isointense in both T1 and T2 right adnexal mass with an impression of fibro-thecoma. Serum Ca -125 (cancer antigen) turned out to be 31 U/mL.

The appearance of the mass on ultrasound and MRI raised the suspicion of an ovarian tumour and the decision for exploratory laparoscopy with possible right oophorectomy with frozen section was taken.

A 10 mm supra-umbilical incision was made for the camera, in

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addition to two lower quadrants incision for 5 mm and 10 mm trocars respectively. Intra-operatively, a well circumscribed right broad ligament mass was identified (Figure 1). The uterus, the ovaries and fallopian tubes had normal morphologies. We started by opening the Broad ligament using a bipolar, an incision was made in the anterior aspect of the fibroid (Figure 2) that was stripped off the peritoneum carefully until reaching the base that was cut using a ligasure. Good homeostasis was ensured (Figure 3). The operation course was smooth without any complications; with an estimated blood loss of 100 cc. Fibroma was removed from the abdomen by extending the RLQ incision, after placing it in an endo-bag. The broad ligament was sutured using biosyn 2-0 (Figure 4). Specimen was sent for histopathological examination that revealed typical leiomyoma tissue description: thin spindle cells in a whorled arrangement (Figure 5).

Patient was clinically and hemodynamically stable post operation. She had a smooth hospitalization course, and was discharged home in the following day in good clinical conditions.

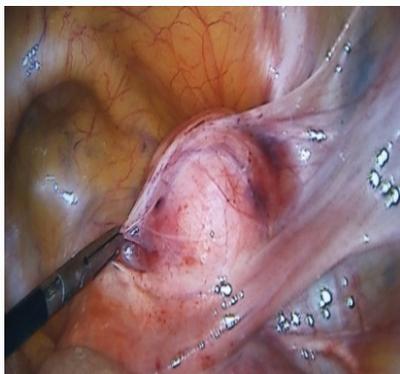


Figure 1: Right broad ligament fibroma.



Figure 2: Incision of the anterior aspect of the fibroid.

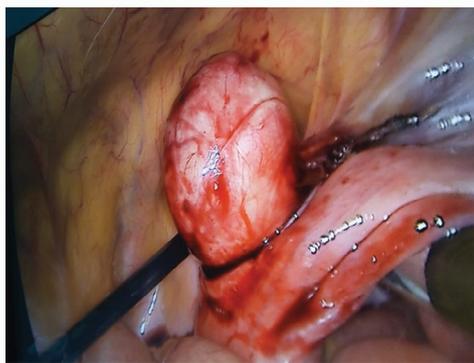


Figure 3: Peeling of the myoma until reaching the base.



Figure 4: Fibroma removed, peritoneum sutured.

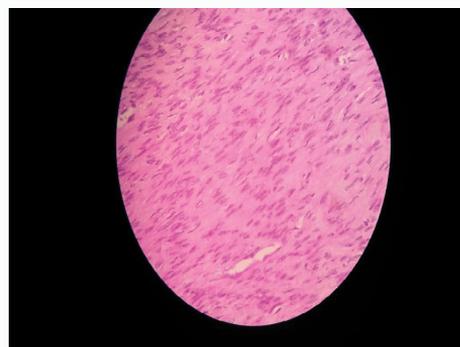


Figure 5: Microscopic view of the broad ligament fibroid. Note the spindle cells in a whorled arrangement.

Discussion

Leiomyomas are non-cancerous growth of smooth muscles [6]. Although uncommon, extra uterine leiomyomas can occur [5,6]. They develop an auxillary blood supply and lose their original attachment at the uterus [6]. Broad ligament leiomyoma occurs in less than 1% of cases [7]. Some authors suggest that broad ligament leiomyomas originate from hormonally sensitive smooth muscle elements of it [5]. In fact, broad ligament leiomyoma can be asymptomatic but can also cause mass effect symptoms, as well as, it can affect reproduction by causing infertility, miscarriage and premature labour [5,6]. Broad ligament leiomyoma is generally diagnosed by imaging. As ultrasound is least invasive and most cost effective, it is the preferred imaging

modality for initial evaluation [6-8]. A leiomyoma has a typical pattern: a whorled appearance with variable echogenicity depending on the extent of degeneration, fibrosis and calcification [5,6,8]. Transvaginal

ultrasound is superior to transabdominal ultrasound as it may help in a clear visualisation of the ovaries and uterus from the mass [5]. Although easily recognised, leiomyomas have been misdiagnosed as adenomyosis, hematometra, uterine sarcoma, ovarian mass as in our case.

MRI can however define the anatomy of the uterus and ovaries but this is limited by its availability and high cost [6]. On MRI, leiomyomas show typically hypointense signal on both T1 and T2 weighted images. Contrary to Rojanna et al. who mentioned that MRI is the image of choice to differentiate broad ligament and masses of ovarian or tubal origin [5]. Nevertheless, this wasn't the case in our patient where MRI confirmed what ultrasound showed [5]. As per Kindiger et al. [8] accurate preoperative diagnosis was made only in 1 in 10 broad ligament leiomyoma, thus the challenge posed by broad ligament leiomyomas at preoperative imaging. It may be confused with ovarian tumour by appearing adnexal in location. This is very crucial as broad ligament leiomyomas are associated with pseudo-Meigs syndrome and produce high level of CA125 pointing towards a metastatic ovarian carcinoma causing thereby diagnostic confusion [5]. Rojanna et al. [5] have described a case of a broad ligament leiomyoma mimicking an ovarian tumour on ultrasound and CT scan as well. In their case, however, the fibroid had cystic degeneration. By then, an ultrasound guided percutaneous biopsy of the tumour might be helpful to determine its exact histologic composition. Intraoperative frozen section would be another option.

Myomectomy is generally indicated only in symptomatic case such as menorrhagia, pelvic pain, pressure symptoms and infertility [8]. Prandit et al. [8,9] mentioned that only 2 cases of true broad ligament leiomyoma were operated. With experienced hands, laparoscopy is the best route for broad ligament leiomyoma as patient has shorter hospital stay, less morbidity and faster recover as compared to abdominal approach. There is paucity of literature on the laparoscopic management of leiomyoma within the broad ligament. Enucleation of broad ligament leiomyoma is difficult because of rich vascularity. Urethral injury, uterine vessel injuries and concealed haematoma formation are common complications [8-10]. Sakanaka et al. [10] have reported laparoscopic removal of 7 broad ligament leiomyomas with a safe operative course and encourage laparoscopic treatment of broad ligament leiomyomas. Such operation should be attempted by most experienced gynaecologist surgeons. Optimally, perioperative GnRH analogues can be used to reduce size and vascularity of the leiomyoma. However, it might cause loss of cleavage planes [9]. Given

the potential complications of broad ligament myomectomy, surgical anticipation is crucial particularly for the unexperienced hands. This may reflect the lack of awareness among radiologist of the surgical significance of broad ligament location. At present, there is very few data on the ease of imaging of broad ligament leiomyomas and their safe laparoscopic management. A careful perioperative care and appropriate surgical management are necessary to obtain satisfactory results.

Conclusion

Broad ligament leiomyoma is a rare entity, and a true Broad ligament, as in our case, is the rarest. Broad ligament leiomyomas, though benign, can be confused with ovarian tumour. This case will facilitate in creating a clinical awareness about the difficulty in its diagnosis and will encourage its management by laparoscopy.

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