

Leiomyomas Masquerading As Ovarian Neoplasms

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Abstract: Leiomyoma uterus is the most common tumor of the female pelvis. Ultrasonography helps to differentiate between leiomyomas and ovarian neoplasms. However, large cystic degenerations and leiomyomas located in the adnexa can mimic ovarian tumors and challenge the radiologist and the operating surgeon. We encountered two such cases, a broad ligament leiomyoma with a missing ovary and cystic degeneration of a large leiomyoma which mislead the sonologists and gynaecologists both pre and intra operatively.

Key words: leiomyoma uterus, cystic degeneration, broad ligament leiomyoma

I. Introduction

Leiomyoma of the uterus is the most common tumor of the female pelvis, arising from the uterine smooth muscle. Its prevalence increases during the reproductive age and is seen in nearly half of the women over the age of 35.¹ However, leiomyomas presenting after menopause is rare. Ultrasonography is the primary imaging modality used for diagnosis and in most cases leiomyomas have a characteristic appearance on imaging. Cystic degeneration and broad ligament leiomyomas can mimic ovarian malignancies and solid ovarian tumors respectively and pose dilemmas in the diagnosis and management.

CASE 1: A 38 year old multiparous lady presented with pain abdomen and dysmenorrhea since 2 months which had worsened since 2 weeks. She also noticed abdominal distension and reduced appetite with early satiety since then. Her menstrual cycles were regular with normal flow and she appeared pale. Abdominal examination revealed a 20x20cm cystic mass arising from the pelvis corresponding to a 28 weeks gravid uterus with restricted mobility. Pelvic examination confirmed the above findings. Movements of the mass were not transmitted to the cervix, increasing our suspicion of an ovarian mass. The uterus however was not felt separately. Ultrasonography showed a complex cyst with a solid component measuring 22x12x20 cm with thick internal septations and internal vascularity giving rise to a high suspicion of malignancy (Fig 1). The plane between the mass and the anterior wall of the uterus was lost. Both ovaries were not separately visualized. The CT scan reported similar findings and the CA 125 was 44.75 µg/ml.



Fig 1: A complex cyst of 22x12x20 cm with a solid component and thick internal septations

With a preoperative diagnosis of an ovarian tumor and a high likelihood for malignancy, the gynecological oncologist was present during the surgery. A midline vertical incision was taken and a staging laparotomy commenced. We found a large vascular cystic mass adherent to the omentum (Fig 2).



Fig 2: Degenerated leiomyoma adherent to the omentum

On releasing the adhesions we were surprised to note a thick pedicle of 2 cm connecting the mass to an otherwise normal uterus (Fig 3).

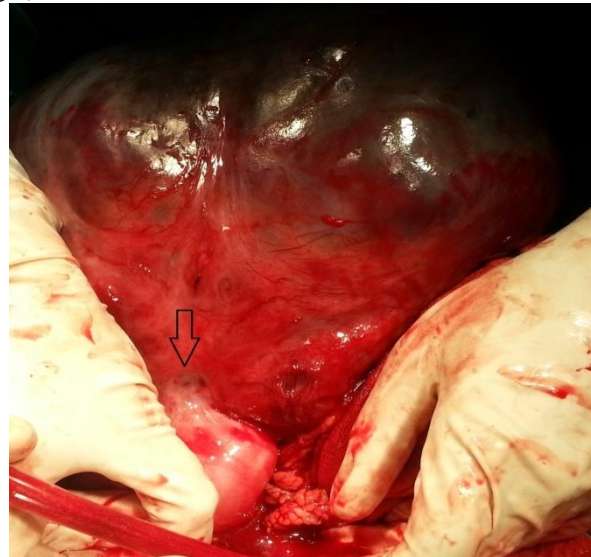


Fig 3: Thick pedicle between the leiomyoma and a normal sized uterus

What perplexed us even more was finding two normal ovaries (Fig 4).

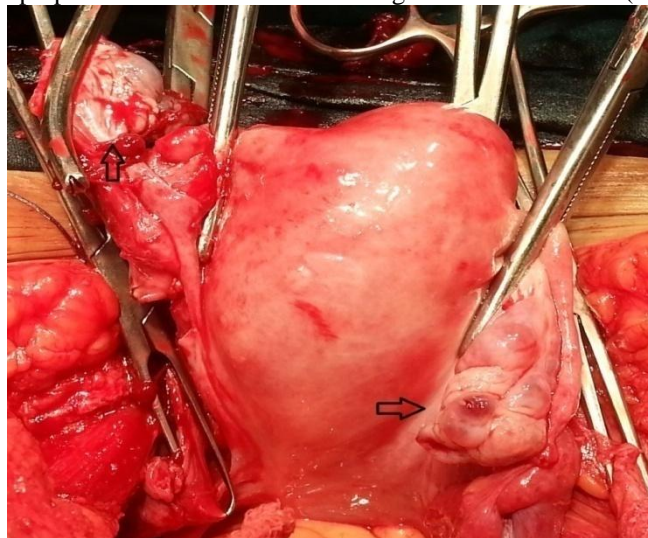


Fig 4: Normal uterus and ovaries

The uterus was bulky with a fundal fibroid of 3x3 cm. The right ovary was normal. The left tube was stretched over the mass and the left ovary was not visualized separately (Fig 7).

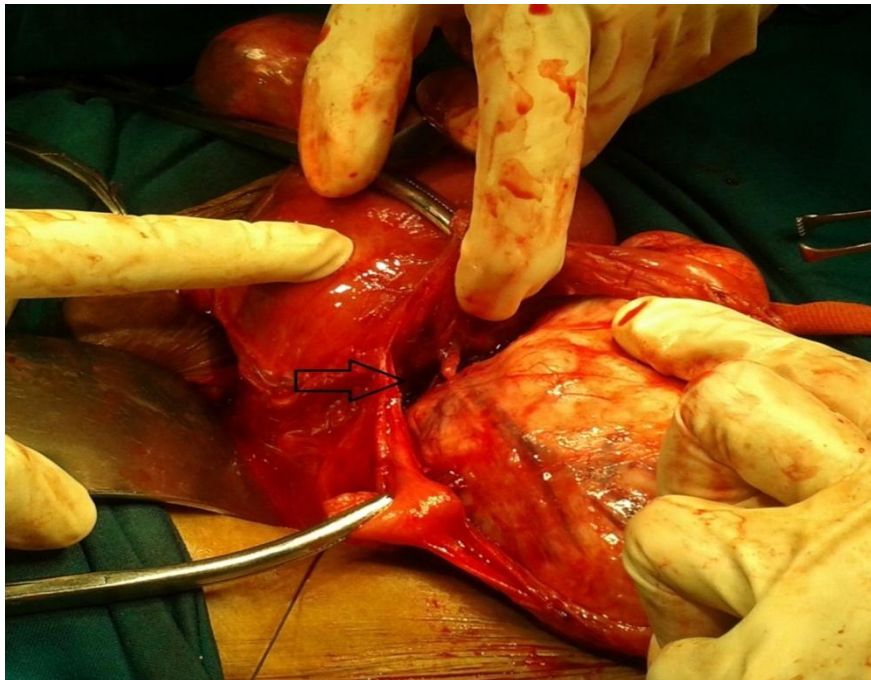


Fig 6: Uterus seen separate from the broad ligament fibroid

The solid mass in the broad ligament was removed and sent for a frozen section with a strong suspicion of ovarian fibroma as the left ovary was not seen separately. The reports revealed a broad ligament spindle cell neoplasm with no ovarian tissue noted within. Our search for the missing left ovary was unsuccessful. We proceeded with a hysterectomy, left salpingectomy and a right salpingo-oophorectomy. Histopathology confirmed the mass to be a broad ligament leiomyoma.

II. Discussion

Uterine fibroids are non cancerous growths in the uterus arising from the smooth muscle. Rarely, they are seen arising from the ovary, cervix, fallopian tubes and the broad ligament.² Leiomyomas are classified as submucosal, subserosal and intramural based on their location. Subserous leiomyomas may become pedunculated or undergo cystic degeneration mimicking ovarian neoplasms.

Degeneration of a leiomyoma is thought to result from the mass outgrowing its blood supply. Hyaline degeneration is the most common accounting for 60% of the cases. Cystic degeneration is observed in 4% of leiomyomas and is an extreme sequelae of edema.²

Broad ligament leiomyomas are a rarity and are easily confused with ovarian neoplasms due to its location. It has been suggested that fibroids that are adherent to the broad ligament originate from hormonally sensitive smooth muscle elements of that ligament. Preoperative diagnosis, as in our case is most often made by the classic appearance of a leiomyoma on ultrasonography.

Ultrasonography is the primary modality used in the diagnosis of a leiomyoma, and most often typical appearances are seen making the diagnosis easy.^{1,3} However, broad ligament fibroids and cystic degeneration of fibroids with internal septations can mimic an ovarian malignancy. Magnetic resonance imaging is more accurate in differentiating leiomyomas from ovarian masses and maybe used when ultrasonography is inconclusive.

A surgical approach is preferred in the management of giant leiomyomas and symptomatic broad ligament fibroids. The surgery should always be attempted by an experienced surgeon. Despite this, intraoperative consultations from gynecologic oncology and a frozen section maybe essential if the mass appears malignant. The chance of ureteric damage during surgery for a broad ligament fibroid should be kept in mind and preoperative ureteric stenting should be considered. A multidisciplinary approach always helps to optimize the results of surgery without causing additional morbidity and mortality.²

III. Conclusion

Fibroids masquerading as ovarian tumors can be challenging for both the radiologists and the surgeons. Magnetic resonance imaging although not the first choice, may be used if ultrasonography is inconclusive. A multidisciplinary approach involving the oncology team is preferred in such cases to achieve optimal results.

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