

# A Rare case of True Broad Ligament Leiomyoma Mimicking an Ovarian Tumor

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## ABSTRACT

Broad ligament is a very uncommon site for presentation of leiomyoma. On account of their size and nature (pedunculated or sessile), clinically leiomyomas may present variably. We are presenting a rare case of leiomyoma of broad ligament in a 50 year old female patient who presented with complaints of lower abdominal pain of one month duration, with normal menstrual cycles. On clinical and ultrasound examination there was a left sided mass in the pelvic region suspected to be an ovarian mass/ subserosal fibroid. MRI (magnetic resonance imaging) confirmed the diagnosis of left broad ligament fibroid and Total abdominal hysterectomy with bilateral salpingo-oopherectomy was done. On histopathology, it was confirmed to be a soft tissue tumor-Leiomyoma. We are reporting this interesting case with clinical, radiological, and histopathological findings for its rarity.

**Keywords:** True broad ligament, ovarian tumor

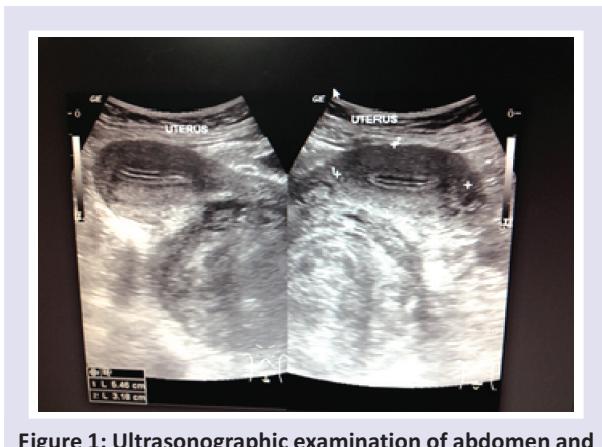
## INTRODUCTION

Fibroid is the commonest benign neoplasm of the uterus in females, composed of smooth muscle with variable amount of fibrous connective tissue, hence named as leiomyoma or fibromyoma. It is the commonest of all pelvic tumours in females, excluding pregnancy; being more common in nulliparous. It can be intra uterine / extra uterine. Extrauterine fibroids though do occur, but are not as common as uterine fibroids. Among the extrauterine fibroids, broad ligament fibroids are the most common to occur<sup>[1]</sup> although its overall incidence being rare.

Broadligament fibroids can be primary (true) / secondary (false). True broad ligament fibroid arises from tissues in the broadligament itself, uterine vessels and ureters lie

medial to the tumor. False broad ligament fibroid arises from uterus but grows laterally between the two layers of the broad ligament but retains its attachment to the uterus, uterine vessels and ureter lie lateral to the tumor. Clinically these lesions may manifest as extra-uterine pelvic masses that compress the urethra, bladder neck or ureter, producing symptoms of varying degrees of urinary outflow obstruction.

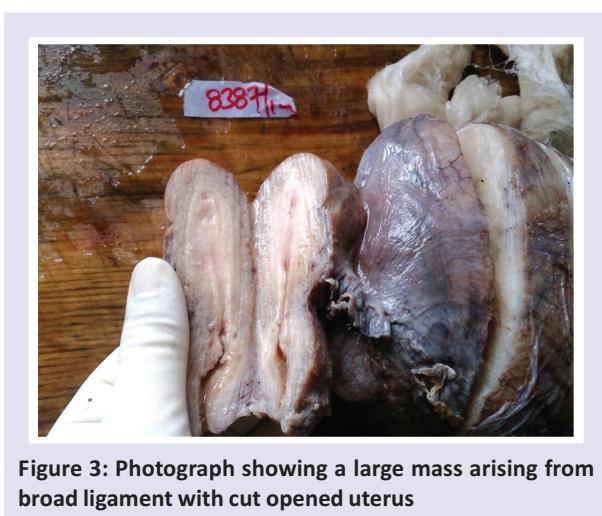
On rare occasions, these tumors may present with unusual clinical manifestations or unusually large size. Because of its rarity it poses specific diagnostic difficulties causing an error in making the final diagnosis and therefore the management. These are usually confused with solid ovarian tumours. This is one such casereport where an accurate diagnosis of whether it was an ovarian tumour or sub serosal fibroid could not be made clinically



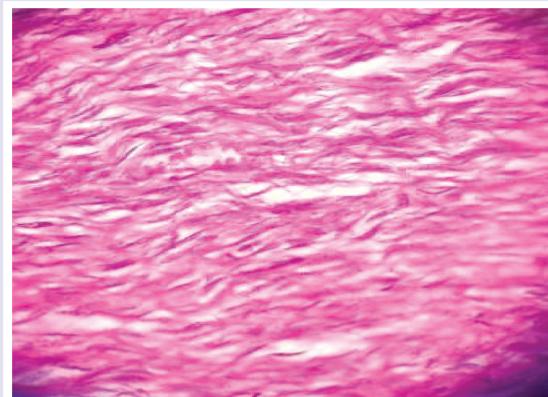
**Figure 1:** Ultrasonographic examination of abdomen and pelvis revealed a mass of 14 x15.8 cms hypoechoic lesion noted in left adnexa abutting the uterus



**Figure 2:** showing left broad ligament fibroid with attached left tube and ovary, uterus normal in size



**Figure 3:** Photograph showing a large mass arising from broad ligament with cut opened uterus



**Figure 4:** Photo micrograph showing benign smooth muscle tumor

and ultrasonographically and the MRI & histopathology confirmed the diagnosis of broad ligament fibroid.

#### CASE REPORT

A 50 year old nulligravida came to Gynaecology outpatient department of our college with chief complaint of pain abdomen and heaviness in lower abdomen since one month. Pain abdomen was in the hypogastric region, insidious in onset, continuous dragging type of pain radiating to back. There were no aggravating or relieving factors and had no relation to food or exercise.

Her menstrual cycles were regular 4/30 days with moderate flow and mild dysmenorrhea and her LMP was 20 days back. Her marital life was 32 years, non consanguinous marriage. She had no h/o infertility treatment. There was no significant past & family history. On physical examination, patient was afebrile and

haemodynamically stable.

On abdominal examination, a uniformly firm mass of 16-18 weeks size was palpable occupying the hypogastric and left iliac fossa which was mobile, non-tender, with well defined upper and lateral margins. Lower pole could not be reached. There was no evidence of free fluid. On speculum examination, cervix and vagina appears healthy and cervix was deviated to right side and no abnormal discharge was seen.

On bimanual examination, Uterus was mild bulky, anteverted, mobile. Mass of 16-18 weeks size felt through anterior and posterior and left fornix, uniformly firm in consistency, mobile, non tender which was not moving with cervical movement. Groove's sign was positive.

Ultrasonographic examination of abdomen and pelvis revealed a mass of 14 x15.8 cms hypoechoic lesion noted

in left adnexa abutting the uterus and a differential diagnosis of subserosal Fibroid or an ovarian mass as given, MRI was done which shows 8.9X11 X10.8cms sized large smooth well marginated lobulated mass lesion in mid line and left adenexal region with well defined margins.

On IV contrast administration lesion shows intense near homogenous enhancement findings favouring broad ligament fibroid on the left side. Uterus is anteverted and normal in size with endometrial thickness of 9-10mm. Right ovary measured 24x21mm and left ovary measures 23x21mm, seen posterior to the above mentioned lesion on the left side.

Routine blood analysis was within normal limits with hemoglobin of 10.6g/dl. Renal parameters and liver function test, chest x-ray and ECG were normal. SerumCA-125 (Cancer antigen) levels were 10.6 u/l. After the total workup of the case it was finally diagnosed as left broad ligament fibroid and was posted for surgery.

Intra-operatively, a 14x15 cms sized fibroid was noted in the left broad ligament. Uterus was normal, left fallopian tube and round ligament stretched over the mass, left ovary was normal. Right ovary was cystic. As the tumor was distorting the pelvic anatomy, careful dissection was done to prevent ureteric injuries. Excision of tumor with Total abdominal hysterectomy and bilateral salpingo - oopherectomy was done. Post-operative period was uneventful. Sutures were removed on 7th postoperative day. Patient was discharged in a satisfactory condition.

Hysterectomy specimen with attached left broad ligament fibroid was sent for histopathological examination. According to histopathology report Uterus with cervix measuring 9 x 4 x 2 cm was unremarkable. Endometrium measured 3mm, myometrium measuring 1.2 cm in thickness. Cut section of Left broad ligament fibroid measuring 14x12.5x8 cm shows grey white areas. Both tubes measuring 4.5cm in length. Cut section was unremarkable. The broad ligament fibroid was not found to be arising from the uterus and was separate.

Microscopically, multiple sections were studied from the specimen. Squamous metaplasia of ectocervix is noted. Sections from endometrium and myometrium revealed normal histology. Sections from left broad ligament mass revealed a circumscribed cellular lesion composed of smooth muscle cells arranged in bundles, fascicles and whorled pattern having plump oval to elongated nucleus. Focal areas show hyaline degeneration no atypia seen. On the above mentioned findings a histopathological diagnosis of benign soft tissue tumor a true leiomyoma of the broad ligament with hyaline changes was given.

## DISCUSSION

Broad ligament is a two layered peritoneal fold which connects the sides of uterus to lateral walls of pelvis and its floor. Epithelial tumors are the most common broad ligament tumors, whereas mesenchymal tumors are rare. Among the mesenchymal tumors, the most common one is leiomyoma.<sup>[2]</sup> It has been suggested that leiomyomas which are adherent to broad ligament, originate from hormonally sensitive smooth muscle elements of broad ligament itself.

Broad ligament leiomyoma can originate from the uterus and invade the broad ligament (false) or it can originate from broad ligament itself (true). These benign tumors are usually asymptomatic. However if the leiomyoma reaches significant size, it can push uterus to contralateral side or it can potentially compress the surrounding pelvis structure and manifest clinically with various sign and symptoms. The location of tumors often determines the various symptoms.<sup>[3]</sup>

It was important for any adnexal masses to discriminate between benign and malignant nature of the lesion in preoperative period for optimal patient management. The differential diagnosis for broad ligament leiomyoma includes masses from ovarian origin-benign or malignant, broad ligament cyst, lymphadenopathy and tubo-ovarian masses. In our case on clinical examination and ultrasonography it was suspicious of an ovarian neoplasm. MRI showed the diagnosis of Broad ligament fibroid. The serum level of cancer antigen CA - 125 was done which was in normal range.

Leiomyomas may be single or multiple. In our case, there was a single mass in broad ligament without uterine leiomyoma. Broad ligament leiomyomas have the potential to grow to large size<sup>[4]</sup>. In our case also the tumor was of large size. When they grow to a large size secondary changes may occur. Most common secondary changes in leiomyoma are degeneration, infection, haemorrhage and necrosis. The cystic changes in lesion mimic the metastatic malignant ovarian tumors.<sup>[5]</sup> Primary leiomyosarcoma in broad ligament is rarely reported.<sup>[6]</sup>

## CONCLUSION

Broad ligament fibroid is a rare entity and a true Broad ligament, as in our case is the rarest. Broad ligament fibroids though benign can grow to massive size and can be confused with ovarian tumor especially when degenerative changes are present. This case will facilitate in creating a clinical awareness of the difficulty in diagnosis and will help in management of such cases.

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## CONFLICT OF INTEREST

The authors declared no conflict of interest.

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