

# Fibroid after Hysterectomy A Radiological Diagnostic Dilemma

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## Abstract:

*Broad ligament fibroids or extra-uterine leiomyomas are not common, that occurs in relation to the broad ligament. While in most cases broad ligament fibroids are asymptomatic, patients may present with pelvic pain or a palpable pelvic mass. The pain, when long standing, may be due to pressure effects on adjacent organs like bladder or ureter. We found a case as a broad ligament leiomyoma in a woman after a hysterectomy. The patient has come to us for routine checkup and ultrasound. Ultrasound, trans-vaginal sonogram and MRI scan was suggestive of possible parasitic leiomyoma. Laparotomy and removal of the mass, followed by histological examination confirmed leiomyoma. Extra uterine fibroid should be considered in the diagnosis of pelvic masses even after post-hysterectomy state.*

**Keywords:** Broad ligament Fibroid, Ultrasound(USG), Trans-vaginal ultrasound (TVS), Magnetic Resonance Imaging(MRI), Laparotomy, Histopathology.

## Introduction:

Fibroids are non-cancerous growths that develop in or around the uterus, originating from hormone sensitive smooth muscles and fibrous tissue, and vary in size. They are sometimes known as uterine myomas or leiomyomas. These histologically benign tumors usually arise in the genitourinary tract and may arise from:

1. Remnants of previous hysterectomy or myomectomy.<sup>1</sup>
2. In addition, unusual growth patterns may be seen, including benign metastasizing leiomyoma, disseminated peritoneal

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leiomyomatosis, intravenous leiomyomatosis, parasitic leiomyoma, and retroperitoneal growth.<sup>2</sup>

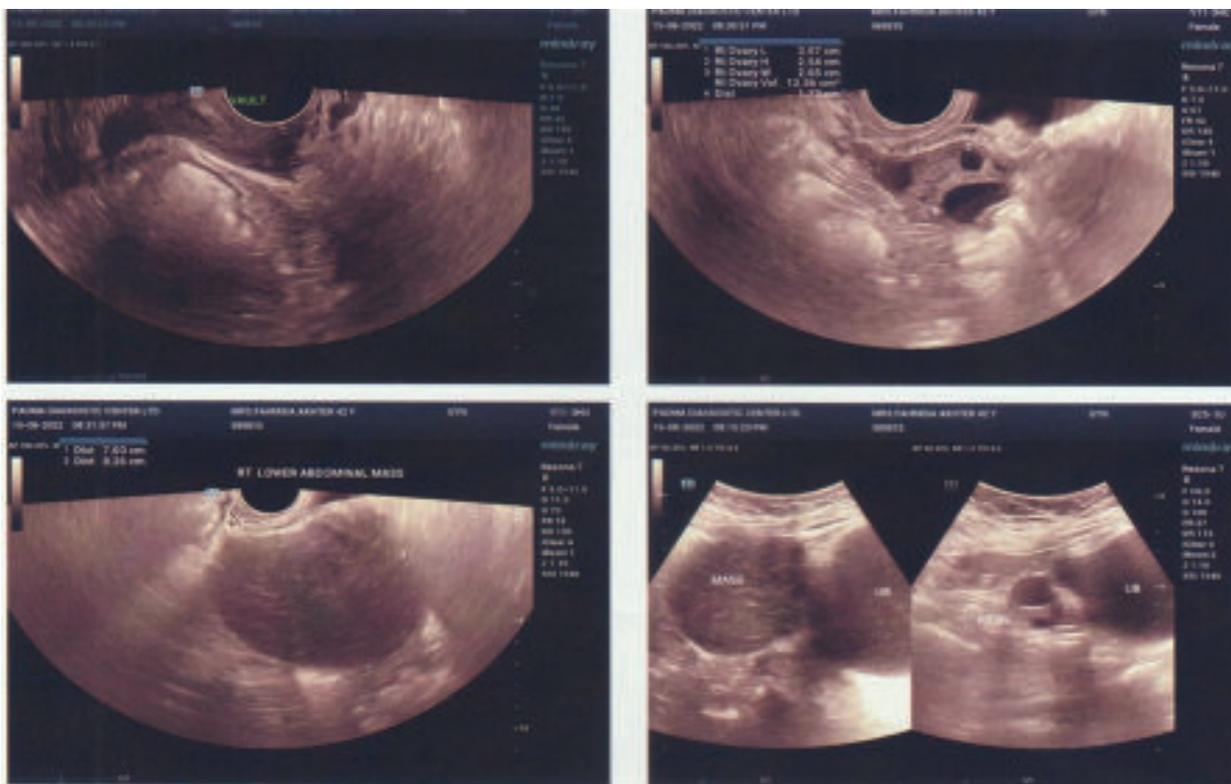
In the presence of such a pattern, a synchronous uterine leiomyoma or a previous hysterectomy for removal of a primary uterine tumor may be indicative of the diagnosis. Among the extra uterine sites, broad ligament fibroid is the most common and usually asymptomatic.<sup>3</sup> Patient may experience pelvic pain or have a palpable pelvic mass. The pain may become longstanding due to pressure effects on adjacent organs or a complicating torsion. Broad ligament fibroid has been documented to reach an enormous size which can mimic ovarian malignancy. It's incidence rate is very low, less than 1%.<sup>7</sup> It has both clinical & radiological difficulty in making a diagnosis.

## Case Report:

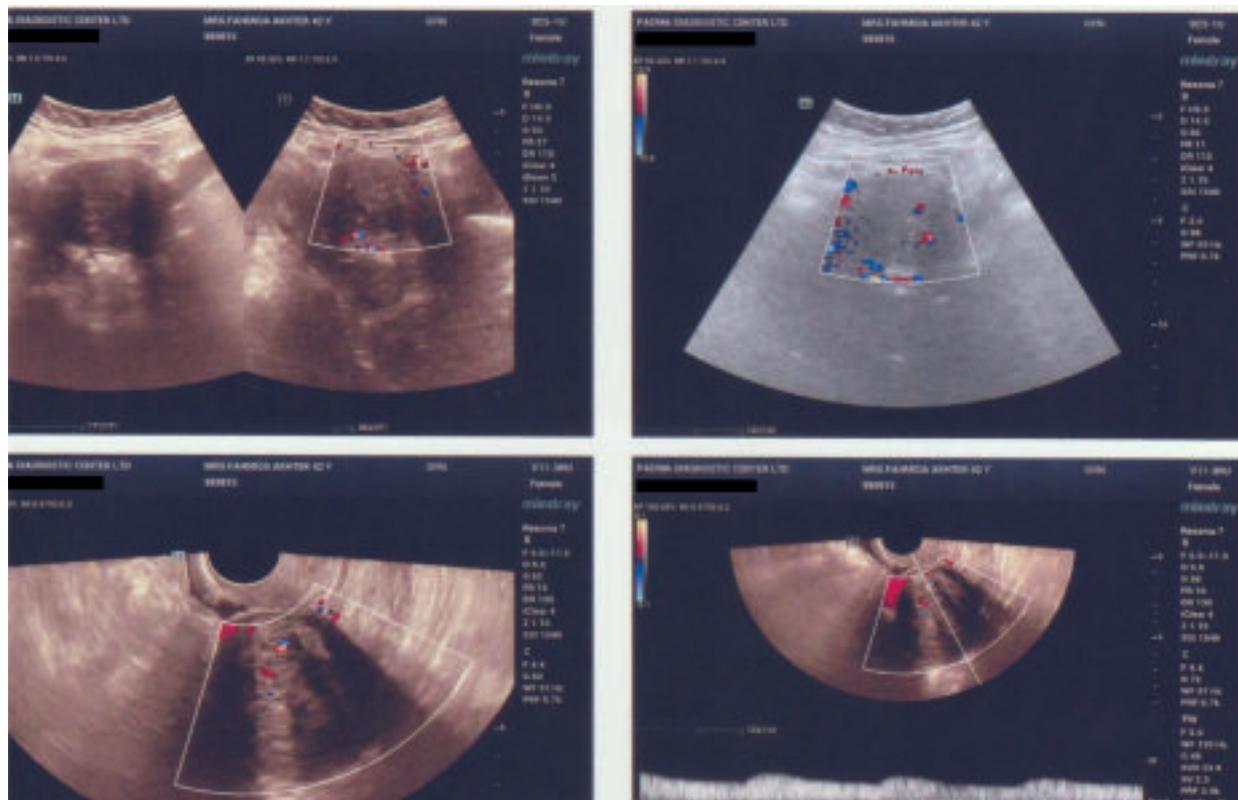
A 42 years old diabetic, hypertensive female patient referred to the Radiology department for USG of lower abdomen for routine checkup in September 2022. The patient had a history of total abdominal hysterectomy with left sided salpingo oophorectomy with right sided partial salpingectomy in May 2018 due to fibroid in uterus and unhealthy left ovary.

At first, trans-abdominal sonography of the whole abdomen revealed a large solid mass of about (9x6) cm in the right side of the pelvic cavity. Then the patient was referred for trans-vaginal sonography. TVS shows the right ovary appears normal with few follicles within. An Isolated round shaped, hypoechoic solid mass having whirled appearance with refractory shadow, in the right lower abdomen (8.2x7.0 cm), which is upward & laterally from the right ovary [Fig.-1] . Vault of the vagina appeared normal. On Color Doppler, the lesion shows peripheral vascularisation [Fig.-2]

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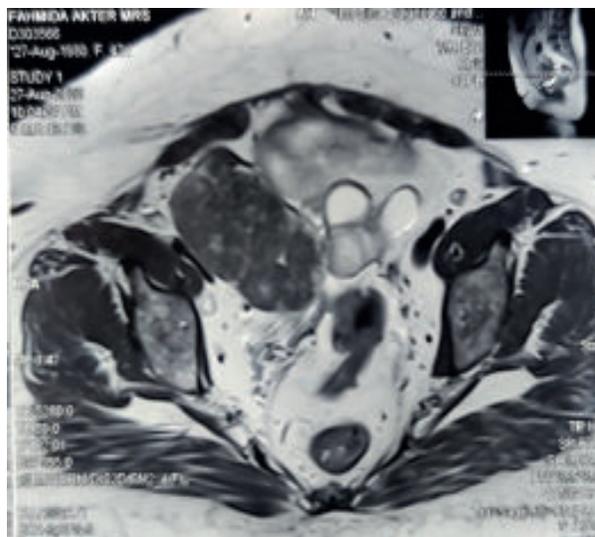
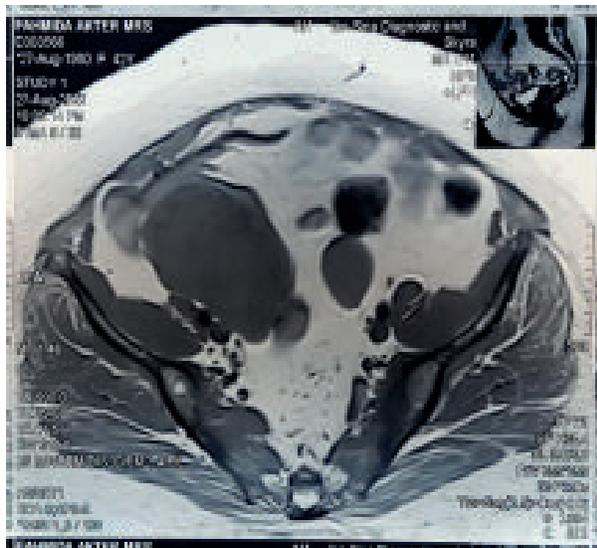
**Fig-1:** An isolated almost round hypoechoic concentric solid mass with areas of refractory shadows in right lower abdomen



**Fig-2:** On color doppler the lesion shows peripheral vascularisation

Origin of the solid mass could not be ascertained. However, as right ovary appears normal, so right ovarian mass is excluded, so considering solid tumor is of tubal origin or broad ligament. Sonographic features are more in favour of fibroid than other solid mass like GIST, Neurogenic tumor, Retro peritoneal mass. As there is a dilemma of this lesion on USG scan,

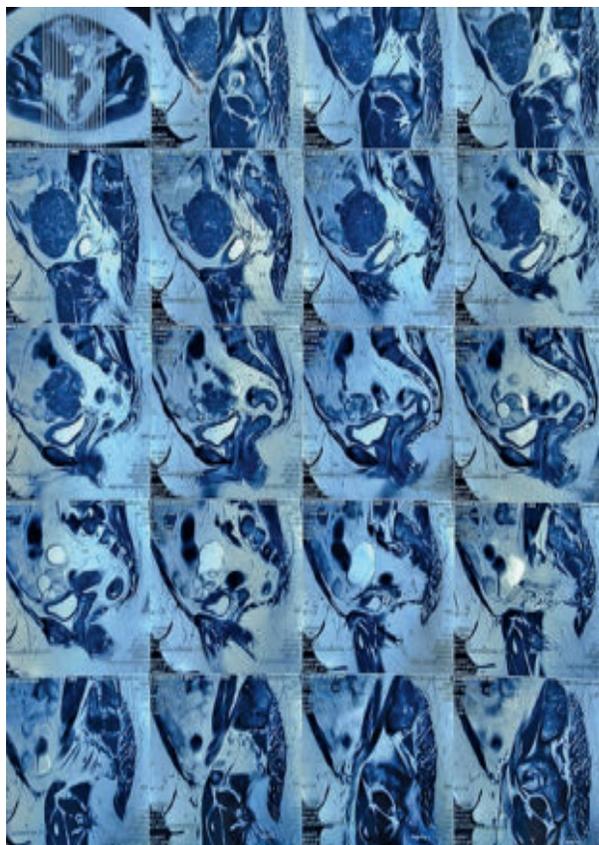
so MRI was advised. Her MRI shows a well-defined mass lesion, located at right adnexal region. The lesion is hypointense in T1[Fig. 3], iso intense with subtle hyper intensity in T2 image[Fig. 4] and shows moderate enhancement after contrast administration[Fig. 5,6]Interface between bladder and mass is well defined [Fig.7]



**Fig. 3 & 4:** A well-defined mass lesion, located at right adnexal region, which is hypointense in T1W, iso intense with subtle hyper intensity in T2W image



**Fig. 5 & 6:** The lesion shows moderate enhancement after contrast administration.



**Fig.-7:** T2 Sagittal view shows interface between bladder and mass is well defined. Right ovary is well separated.

Right ovary is well separated. So possible diagnosis is right lower abdominal contrast enhancing mass. Her Cancer

Antigen (CA 125) was reported within normal limit -11.80 U/ml ( normal range upto 35U/ml). Due to dilemma in diagnosis, the laparotomy was performed at BIRDEM General Hospital.

Intra-operative findings revealed solid mass of about 10.5 cm x 8.5 cm in right side of vault, which is well capsulated with nodular surface and firm in consistency. Right ovary was healthy and removed. Small cystic lesion (inclusion cyst) found in vault was also removed. Specimen was sent for histopathology which confirmed leiomyoma in broad ligament and normal right ovary and fallopian tube. No malignancy was found.

#### Discussion:

Leiomyomas occur infrequently outside the uterus. Although they are histologically benign, extrauterine leiomyomas may mimic malignant

tumours at imaging and may present a diagnostic challenges. The clinical symptoms and imaging features depend on the location of the lesion and its growth pattern. A typical whorled appearance with refractory shadowing at USG, and signal intensity similar to that of smooth muscle at T1 and T2 weighted MRI, strongly favour a diagnosis of leiomyomas.

#### Conclusion:

So, the patient had hysterectomy due to fibroid in 2018. But another fibroid originated from broad ligament. Broad ligament fibroid is rare & often create clinical & radiological diagnostic difficulties. Extra uterine fibroid should be considered in the differential diagnosis of pelvic masses even in the post-hysterectomy state.

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