

# CASE REPORT

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## UNUSUAL CASE OF LARGE INTRAPERITONEAL ROUND LIGAMENT LEIOMYOMA WITH DEGENERATION AND CO-INCIDENTAL PARATHYROID ADENOMA: A CASE REPORT

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**INTRODUCTION:** Fibroid or leiomyoma is the commonest of all uterine tumors in more common in reproductive age. They are most common in women of child-bearing age. Their classification is determined by their origin and direction of growth. They are divided into three main groups subserous, interstitial, and submucous. Submucous fibroids arise beneath the endometrial layer and often project into endometrial cavity, interstitial or intramural fibroids arise within the myometrium, and subserous fibroids arise from serosal layer and present as adnexal masses. Extra-uterine fibroids do occur but are not as common as uterine fibroids. Extra-uterine fibroids may develop in the broad ligament or at other sites where smooth muscle exists. Common symptoms of fibroids include menstrual disturbances, dysmenorrhea, and symptoms related to pressure caused by the mass. Most common secondary changes are degeneration, infection, hemorrhage, necrosis, and rarely, sarcomatous changes.<sup>(1)</sup>

**CASE REPORT:** This 45 year old multipara reported with 6 months history of abdominal distension, discomfort and pain off and on. Her main concern was history of recurrent bouts of corpopedal spasm. Apart from distension she had no history of bowel or bladder complaints, weight loss, anorexia, or fever. Previous menstrual cycles were regular. On examination, the patient was afebrile, pulse 76/min, and blood pressure 130/80 mmHg. Abdominal examination revealed a mass of 24-26 weeks size gravid uterus, which appeared to be arising from the pelvis. On palpation, mass was of found to of variable consistency, non-tender, transversely mobile with irregular margins. The lower pole could be reached partially. On speculum examination, cervix was healthy, and no abnormal discharge was seen. On vaginal examination, the mass was felt in the pouch of Douglas pushing the cervix anteriorly. Fornices were full and non-tender.

Routine blood analysis was within normal limits. Serum Human chorionic gonadotropin values were <0.10 milli international units per liter. Serum CA-125 (ovarian cancer antigen 125) value was 20.16 u/ml. CEA. An urgent serum calcium revealed results of 4.3 mg /dl and was suspected to be suffering from parathyroid adenoma. Serum phosphorus 5.95mg/ dl, alkaline phosphatase 72.5 u/l serum electrolytes, sodium 142mmol/l, potassium 3.9mmol/l, chloride 107 mmol/l. ultrasonography suggested normal thyroid and small parathyroidadenoma. X-ray of hand and skull were normal. She is being managed symptomatically with calcium and vit D therapy.

(Carcinoembryonic antigen) 1.58 ng/ml. Hepatitis B surface antigen and HIV duo ultra were negative. Thyroid function test- FT3 FT4 TSH3 was within normal limits. On ultrasonography, a well-defined, mixed echogenic lesion measuring 18.8cm × 12.2 cm × 13.6 cm

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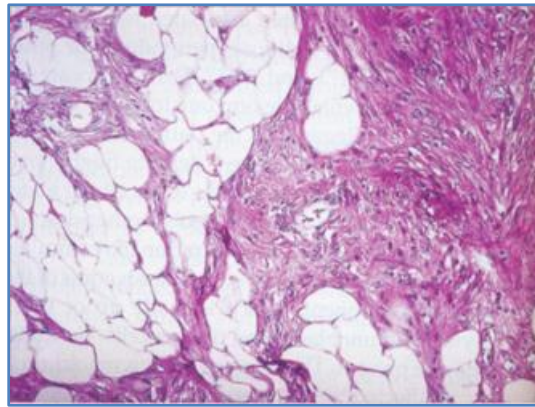
was seen in the midline posterior to bladder pushing the uterus anterolaterally toward the left side extending cranially up to mid-abdomen with multiple internal cystic changes there was moderate to gross internal vascularity. Minimal fluid with internal echoes was noted in the endometrial cavity. The right ovary was not seen as separate from the mass. Left ovary was normal. There was mild hydronephrosis in the right kidney likely due to ureteric obstruction by the right adnexal mass. Diagnosis of right ovarian neoplasm was made. On contrast-enhanced computed tomographic (CECT) scan of abdomen and pelvis, a large mixed density abdomino-pelvic lesion was seen in the pouch of Douglas with thick internal septations and solid components. The septations and solid components showed significant enhancement on post contrast images.

The CECT appearance was typical of cystic ovarian neoplasm. Final diagnosis based on the CECT scan of abdomen and pelvis was right ovarian neoplasm. With a provisional diagnosis of malignant ovarian tumor, the patient was taken up for an exploratory laparotomy. Intra-operatively, an abdomino-pelvic mass of size approximately 18 cm × 13 cm × 12cm was seen with variable consistency and increased vascularity, arising from the right side of inguinal region at the insertion of round ligament. Uterus, both sides fallopian tubes and ovaries were separately felt and seen. There were two small fibroid of 2cm x 2cm size in the fundus of uterus. Both side ovaries were markedly hyperemic with multiple areas of adhesions and variable consistency nodules. Excision of tumor with total hysterectomy and bilateral salpingo-oophorectomy was done. Post-operative course was uneventful.

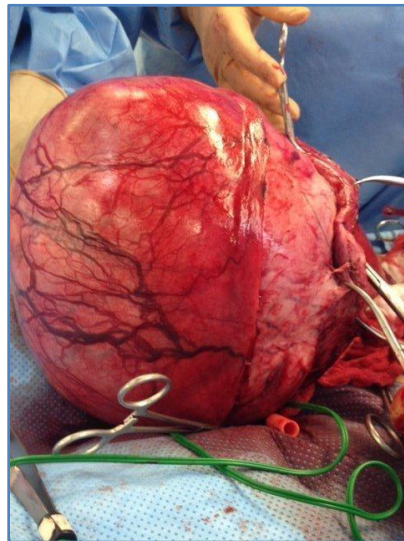
The surgically resected specimen included a large nodular cystic mass measuring 18 cm × 13cm × 12 cm, uterus and both side adenexa. On histopathological examination, the cut section of the mass showed solid fleshy areas and cystic areas filled with hemorrhage. The uterus revealed two large and multiple small intramural fibroids. The largest one measured 4 cm × 5 cm and smallest 0.5cm in diameter. Right fallopian tube was normal and right ovary was 3.5 cm × 1.5 cm × 0.5cm. Cut section of ovary showed cyst filled with serous fluid. Cyst measured 2 cm in diameter. Left fallopian tube was 3.5cm. The mass in the broad ligament stained with hematoxylin and eosin showed the endo-myometrium was composed of round to oval glands lined by columnar epithelium set in a compact stroma. Section studied from the larger parametrial mass showed a benign tumor with interlacing bundles of smooth muscle cells, scattered thick-walled blood vessels, and evidence of cystic, myxoid and hyaline degeneration. Histological features are suggestive of leiomyoma with areas of degeneration. Cervix showed a mild-to-moderate sub-epithelial lymphocytic infiltrate. There was no evidence of dysplasia or malignancy in the cut sections of the cervix.

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**FIG. 1: LEIOMYOMA showing degeneration**



**FIG. 2: Round Ligament Leiomyoma**

**DISCUSSION:** Tumours of the round ligament of the uterus are quite rare. The most commonly found tumours are leiomyomas, followed by endometriosis and mesothelial cysts. Approximately, one-half to two-thirds of leiomyomas occur in the extra-peritoneal portion of the round ligament and are more common on the right side for unknown reasons. The transformation of the myofibrous structure of the female genital tract to leiomyoma involves somatic mutations of normal smooth muscle and a complex interaction between sex steroids and local growth factors.<sup>2</sup> Estrogen is the major promoter of the myoma growth; however, the role of progesterone is still unclear, as both receptors have been found in the round ligament.

Occasionally, fibroids become adherent to surrounding structures like the broad ligament, omentum, develop an auxiliary blood supply and lose their original attachment to the uterus. It has also been suggested that fibroids that are adherent to the broad ligament originate from hormonally sensitive smooth muscle elements of that ligament. Clinically, these lesions may

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manifest as extrauterine pelvic masses that compress the urethra, bladder neck, or ureter producing symptoms of varying degrees of urinary outflow obstruction or secondary hydronephrosis. On ultrasound, a typical leiomyoma usually has a whorled appearance, with variable echogenicity depending on the extent of degeneration, fibrosis, and calcification. The differential diagnosis for broad ligament fibroids includes masses of ovarian origin (both primary neoplasms and metastasis), broad ligament cyst, and lymphadenopathy. Transvaginal ultrasound may be of help in diagnosing broad ligament fibroid because it allows clear visual separation of the uterus and ovaries from the mass.<sup>3</sup> Magnetic resonance imaging (MRI), with its multiplanar imaging capabilities, may be extremely useful for differentiating broad ligament fibroids from masses of ovarian or tubal origin and from broad ligament cysts. The distinctive MRI appearances of typical fibroids also are useful in differentiating them from solid malignant pelvic tumors. This observation is important because broad ligament fibroids are associated with pseudo-Meigs syndrome and produce an elevated cancer marker CA-125 levels that may point to metastatic ovarian carcinoma, thereby causing diagnostic confusion.

Typical fibroids demonstrate low to intermediate signal intensity on T1-weighted images and low signal intensity on T2-weighted images. Myxoid degeneration and necrosis may be visible as high signal intensity areas on T2-weighted images. Another common variant seen on both T1-weighted and T2-weighted images is a cobblestone-like appearance due to hyaline degeneration, with high signal intensity foci representing areas of infarction due to rapid growth. Hyalinization is the most common type of degeneration occurring in 60% of cases. Cystic degeneration occurs in 4% of cases and is considered an extreme sequel of edema.<sup>4</sup> Kaushik et al.,<sup>5</sup> have reported series of two cases of uterine fibroids with cystic degeneration. Ultrasound-guided percutaneous biopsy of the tumor may be helpful for determining its exact histologic composition before surgery. Cystic lesions in female pelvis most often originate in the ovary. Non-ovarian cystic pelvic lesions may include peritoneal inclusion cysts, paraovarian cysts, mucocele of appendix, hydrosalpinx, subserosal, or broad ligament leiomyomas with cystic degeneration, cystic adenomyosis, and cystic degeneration of lymph nodes, hematoma, abscess, spinal meningeal cysts, and lymphoceles.<sup>6</sup> Four percent of fibroids undergo cystic degeneration with extensive edema forming cystic, fluid-filled spaces. In such cases, vessels bridging the mass and the myometrial tissue, termed bridging vessel sign are useful in diagnosing the case as leiomyoma.

**CONCLUSION:** Extra-uterine Leiomyomas occur infrequently, although they are histologically benign, may mimic malignant tumors at imaging, and may present a diagnostic challenge. The clinical symptoms and imaging features depend on the location of the lesion and on its growth pattern. So, the differential diagnosis of extra-uterine Leiomyoma should be considered in cases of pelvic masses with normal uterus and ovaries.

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