Case Report

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A Case of Massive Broad Ligament Leiomyoma Imitating an Ovarian Tumour

Pathology Section

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ABSTRACT

Leiomyomas are the most common benign tumours of female reproductive system which occur in women of child- bearing ages. Large fibroids are known to arise from uterus, but rarely from broad ligament. An unusual clinical presentation of a massive, broad ligament fibroid which measured 25 cm x 22 cm x 21 cm, and imitated an ovarian tumour because of its myxoid and cystic degenerations, has been described.

Keywords: Smooth muscle, Benign

CASE REPORT

A 45-year-old, peri-menopausal, married female, presented with the complaints of menorrhagia and dysmenorrhoea of five months duration, along with swelling and chronic pain in abdomen of two months duration. No associated history of bladder or bowel complaints, anorexia or weight loss was reported. Patient reported a history of two past full-term, normal, vaginal deliveries; the last one being done 15 years back. Patient's per abdominal examination revealed a firm, nontender, slightly mobile, lower abdominal swelling of size of 28-30 weeks. Per vaginum examination revealed the cervix as firm and deviated towards right side. Uterus was bulky, anteverted, with no exact size being mentioned. Per speculum examination revealed a healthy vagina and cervix.

The laboratory investigation reports included haemoglobin; 6.5 g/dl, CA-125; 16 U/ml. Kidney and liver function tests were within normal limits. Ultrasonographic examination of lower abdomen revealed a heteroechoic lesion of size, 20 cm x 19.9 cm x 17 cm, which extended from cul-de- sac to supra-umbilical region superiorly and from bilateral adnexal region on both sides. Uterus was poorly demarcated and it was not separate from the lesion. Diagnosis of an ovarian mass lesion was made. Magnetic resonance imaging (MRI) revealed a large multiloculated, cystic, abdomino-pelvic mass which caused a mass effect and suggested the possibility of a benign epithelial ovarian tumour, most likely a mucinous cystadenoma.

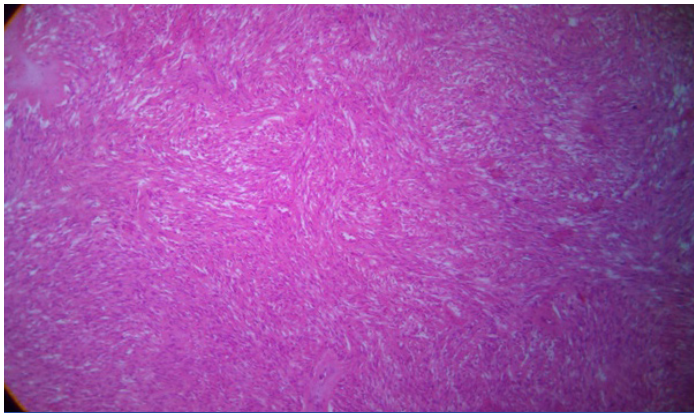
Radiologically, a provisional diagnosis of a benign ovarian tumour was made and no pre-surgical FNAC or biopsy was done because of the cystic nature of neoplasm. The patient was planned for total abdominal hysterectomy with bilateral salpingo-oopherectomy. Operative findings revealed a normal sized uterus with a left-side parovarian mass which measured 25 cm x 22 cm x 21 cm in size. Both ovaries were found to be of normal sizes. Specimen was sent for histopathological examination.

On gross examination, uterus with cervix measured 8 cm x 6 cm x 4 cm, with 1.5 cm thick myometrium. Cut surfaces of uterus and cervix were normal. Right fallopian tube and right ovary were within normal limits. Left fallopian tube measured 7 cm x 0.5 cm and left ovary was 3.5 cm x 2 cm x 1 cm in size, with a haemorrhagic corpus luteum on cut surface. A mass was identified, which measured 25 cm x 22 cm x 21 cm, which lay separately from left ovary, within the broad ligament, on the left side. Its outer surface was smooth, with dilated prominent blood vessels. The cut surface of mass [Table/Fig-1] revealed solid and cystic areas which contained altered haemorrhagic fluid. The solid foci showed a whorled appearance. Respective sections were taken from the whole specimen.

Microscopically, cervix and uterus exhibited chronic non-specific cervicitis, a proliferative endometrium and an unremarkable myometrium. Right and left fallopian tubes and right ovary were also unremarkable.

A haemorrhagic corpus luteum was identified in the left ovary. A mass in left broad ligament revealed a benign tumour which was composed of spindle-shaped smooth muscle cells which were arranged in fascicles and bundles. Nuclei of the smooth-muscle cells were elongated, with fine nuclear chromatin and inconspicuous nucleoli. Areas of cystic and myxoid degenerations were also seen microscopically in sections taken from cystic areas [Table/Fig-2].

[Table/Fig-1]: Gross specimen of broad ligament fibroid along with the part of uterus



[Table/Fig-2]: Microscopic examination revealed interlacing bundles of smooth muscle cells (Hematoxylin & Eosin x 10x)

DISCUSSION

Broad ligament is a two layered peritoneal fold which connects the sides of uterus to lateral walls of pelvis and its floor. Epithelial tumours are the most common broad ligament tumours, whereas mesenchymal tumours are rare. Among the mesenchymal tumours, the most common one is leiomyoma [1]. It has been suggested that leiomyomas which are adherent to broad ligament, originate from hormonally sensitive smooth muscle elements of broad ligament itself. Leiomyomas commonly present as menstrual disturbances, reproductive dysfunctions and pressure symptoms like bladder and bowel dysfunctions. These undergo secondary changes which include degeneration, infarction, necrosis, haemorrhage and they rarely show sarcomatous changes. Broad ligament fibroids are associated with pseudo-Meigs syndrome and they can produce elevated cancer marker CA-125 levels, leading to diagnostic confusion with metastatic ovarian carcinoma.

Physical examination and pelvic imaging are the main modalities for diagnosis of leiomyomas. Radiologically, vessels bridging the mass and myometrial tissue, which is termed as 'bridging vessel sign', is helpful in diagnosis of leiomyoma. The present study has reported a rare case of a broad ligament fibroid which presented with an abdominal mass and which clinically and radiologically imitated the features of an ovarian tumour. However, on histopathological examination, it was identified as a broad ligament leiomyoma. Myxoid and calcific degenerations are the most common degenerative forms which are observed in leiomyomas. No relationship has been identified between the clinical symptoms and incidences of degenerative changes [2]. In the present case, the leiomyoma underwent myxoid and cystic degenerations. Two cases of broad ligament leiomyomas with myxoid and cystic degenerative changes have been reported from India [3,4]. Asotra et al., [3] have reported neurilemoma like patterns in broad ligament fibroids.Consistent with our findings, Godbole et al., [4] reported a broad ligament fibroid which mimicked an ovarian tumour. Cystic degeneration is considered as an extreme sequel of oedema in leiomyomas with degenerative changes and its incidence has been reported to be as 4% [5]. There are few case reports [2,6-8] with calcific degenerations, which have been noted in broad ligament leiomyomas. Ultrasound/CT guided pre-surgical percutaneous biopsies of the lesions can be helpful for determing their exact histologic compositions before doing surgeries. The differential diagnosis of large cystic lesions in female pelvis includes masses of ovarian origin (both primary neoplasms and metastasis), broad ligament cysts, peritoneal inclusion cysts, paraovarian cysts, hydrosalpinces, broad ligament leiomyomas with cystic degenerations, cystic degenerations of lymph nodes, haematomas, abscesses and lymphoceles [9].

As has been exemplified in the present case, extrauterine leiomyomas with extensive degenerative changes can cause errors in radiological diagnosis. Histopathology helps to a major extent in such cases, in making the final diagnosis.

CONCLUSION

A rare case of a broad-ligament leiomyoma with a massive size and secondary changes may pose a diagnostic difficulty in differentiating it from an ovarian tumor. This case will facilitate in creating a clinical awareness of this difficulty and it will help in making better and early diagnoses of such cases, by creating awareness.

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