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KEY WORDS: Leiomyoma, degenerative fibroid, ovarian tumour

A HUGE DEGENERATIVE LEIOMYOMA MIMICKING AS AN OVARIAN TUMOUR

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ABSTRACT

Introduction: Leiomyomas are the most common uterine neoplasms in women of reproductive age group. Sometimes some are symptomatic while others are quiescent, therefore the size, number and location of fibroids determine their clinical behaviour. We report an unusual case of an asymptomatic large degenerative broad ligament fibroid mimicking as an ovarian tumour. Presentation of the case: A case of 41 year old pre-menopausal nulliparous woman presented with abdominal distention over a period of 3 years. On investigation, CECT abdomen showed a large mass occupying the whole abdomen and features suggestive of a suspicious ovarian neoplasm. Exploratory laparotomy was done followed by Total abdominal hysterectomy with bilateral oophorectomy.

Discussion: The management of uterine leiomyoma may involve expectant medical or surgical or a combination of these treatments. A surgical approach is preferred for management of giant leiomyomas.

Conclusion: Extra-uterine fibroids are usually rare. Although they are histologically benign, they may have malignant features on imaging and therefore it can be a diagnostic challenge. Hence, the differential diagnosis of extra uterine fibroid should be considered in cases of pelvic mass with normal uterus and ovaries.

INTRODUCTION:

Leiomyoma is the most common tumour arising from uterine smooth muscle. The prevalence of clinically significant myomas peaks in pre-menopausal years and declines after menopause[1]. Some fibroids are symptomatic while others are quiescent. Extra uterine fibroids, therefore the size, number and location of fibroids determines their clinical behaviour.

Extrauterine fibroids like broad ligament fibroids which may mimic as adnexal mass. Degenerative changes can occur in these types of fibroids due to inadequate blood supply. Among them, myxoid and calcific degenerations are the commonest form[2]. Other unusual presentations include intravenous leiomyomatosis, leiomatosis peritonealis disseminata.

Case Report:

A 41 year old premenopausal nulliparous woman came with complaints of abdominal distention over a period of three years. She had no history of lower abdominal pain and no associated pressure symptoms like bladder or bowel disturbances. Her menstrual cycles were regular. She gave a past history of diagnostic laproscopy done 10 years back for infertility evaluation. At the time of admission she was a newly diagnosed with type 2 diabetes mellitus, systemic hypertension and hypothyroidism for which medications were commenced. She had no significant family history of malignancy. Abdominal examination revealed a huge abdominal mass extending upto xiphisternum. Lower border of abdomen was not palpable. On palpation, abdomen was non-tender with variable consistency. Tumour markers like CA-125(78U/mL), CEA(2.62ng/mL), serum -Hcg(0.14mIU/mL), -fetoprotein(2.71ng/mL), LDH(2.01U/L) was done and was found to be within normal limits. Ultrasonography showed a large abdomino-pelvic mass of size 33cmx30cmx25cm arising from the left pelvic region with increased vascularity on doppler. The mass was further evaluated by performing a CECT-Abdomen and Pelvis which showed a large well defined irregular complex solid cystic abdomino-pelvic mass lesion of size 34.5cmx33.8cmx24.3cm is seen arising from left side of the pelvic region, crossing the midline extending superiorly into the hypogastric, bilateral iliac, umbilical and left lumbar quadrant abutting the lower pole of left kidney. The lesion showed irregularly thickened walls with mildly enhancing eccentric solid components, internal septations and few patchy calcifications. Pelvic structures like uterus, bilateral ovaries could not be separately delineated suspicious of an ovarian mass. A multi-disciplinary approach was considered and patient was taken up for exploratory laparotomy with a frozen section biopsy. Intraoperatively a xiphi-pubic incision was made. Minimal peritoneal fluid was aspirated and sent for cytology. A huge pelvic mass arising from uterus and cervix was noted. The mass was approximately 36cmx34cmx33cm in size extending upto the diaphgram. Bowel and omentum was adhered to the upper end of the mass. Excision of the tumour along with total abdominal hysterectomy with bilateral salpingo-oopherectomy was done. Complete hemostasis was achieved. Intraabdominal drain was kept and abdomen closed in layers. During the course of the surgery, a total of 7 units of PRBC(Packed Red blood cells) transfusion and 4 units of FFP(fresh frozen plasma) was given. Post surgery, the patient was kept in Intensive care unit for three days and prophylactic low molecular weight heparin and antibiotics were initiated. Intra abdominal drain was removed on post-operative day 5. Patient improved symptomatically and was started on oral feeds. At the time of admission the patient's weight was 97kg, whereas on discharge the patient weight reduced to 68kg.

Pathological examination:

Gross examination: Mass of size 38cmx26cmx12cm with three litres of haemorrhagic fluid drained. Endocervical canal measured 2.5cm in length. Cut section of the mass revealed grey-white areas of whorling with solid and cystic areas filled with hemorrhagic fluid. The mass showed cystic change, hyalinization, calcification and focal infarction. Left ovary measured 8cmx5cmx1cm. Cut surface showed solid, cystic areas filled with pultaceous material with hair follicles suggestive of a dermoid cyst Microscopic examination: Cut section of cervix showed chronic cervicitis. Cut section of the mass showed cystic change, hyalinization, calcification and focal infarction. Cut section of the left cystic ovarian tumour showed keratinization, adipocytes, fibroblasts, mature ganglion cells, hair shaft and dilated lymphatic blood vessels. Histopathological report concluded the mass to be a large broad ligament cellular leiomyoma with secondary degenerative changes and mature teratoma of the left ovary.

DISCUSSION:

Current study has reported a rare case of broad ligament

fibroid which presented with an abdominal mass which clinically and radiologically imitated the features of an ovarian tumour. However, on histopathological examination it was identified as a broad ligament leiomyoma. Broad ligament is a two layered peritoneal fold which connects the sides of uterus to lateral wall 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]. Leiomyomas, myomas or fibroids are the most common uterine neoplasm. Their size may vary from microscopic to giant tumours[3]. Based on their location, leiomyomas are classified as submucosal, intramural or sub-serosal. Occasionally fibroids become adherent to surrounding structures like the broad ligament or omentum and thereby develop an auxiliary blood supply and lose their original attachment to the uterus. Clinically, these lesions may manifest as extra-uterine pelvic masses that compress the bladder neck or ureter producing symptoms of varying degrees leading to urinary outflow obstruction or secondary hydroureteronephrosis. Leiomyomas also present as menstrual disturbances, reproductive dysfunction and pressure symptoms like bowel dysfunctions. At times, they undergo secondary changes which include degeneration, infarction, necrosis, haemorrhage and rarely show sarcomatous changes[4-7]. As leiomyomas increase in size they outgrow their blood supply resulting in various types of degenerations such as hyaline, cystic, myxoid or red degeneration and dystrophic calcification[8]. Hyalinization is the most common type of degeneration occurring in upto 60 percent of the cases. Cystic degeneration is observed in 4 percent of leiomyomas[9]. The potential of leiomyomas to grow to an extreme size before causing symptoms is quite remarkable.

The differential diagnosis of broad ligament fibroid includes masses of ovarian origin (both primary neoplasm and metastasis) broad ligament cyst and lymphadenopathy. Typical appearance of leiomyomas are easily recognised whereas degenerative changes can cause confusion in diagnosis. Leiomyomas have been misdiagnosed as adenomyosis, hematometra, uterine sarcomas and ovarian masses.

The preferred imaging modality for the initial evaluation is ultrasonography[10]. Radiologically vessels bridging the mass and myometrial tissue which is termed as bridging vessel sign is helpful in diagnosis of leiomyoma. Unless they are calcified or necrotic leiomyomas are indistinguishable in a CT scan. Magnetic resonance imaging 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 cyst[11]. These observations are important because broad ligament fibroids are associated with pseudo-Meigs syndrome and produce an elevated CA-125 levels that may point to a metastatic ovarian carcinoma, thereby causing a diagnostic confusion[12].

Cystic lesions in female pelvis most often originate in the ovary. Non ovarian cystic pelvic lesions may include peritoneal inclusion cyst, para-ovarian cyst, mucocele of appendix, hydrosalpinx, subserosal broad ligament leiomyomas with cystic degeneration, cystic adenomyosis, cystic degeneration of lymphnodes, hematomas, abscess, spinal meningeal cyst, lymphocele[13].

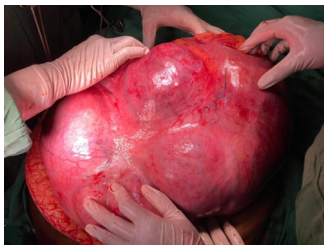
The current established management of uterine fibroid may involve one of the following approaches, a combination of expectant management, surgical management, medical management, uterine artery embolization. The chosen approach should be individualised depending upon various factors, including age, type and severity of symptoms, suspicion of malignancy, desire for future fertility and proximity to menopause.

A surgical approach is most frequently preferred for management of giant leiomyomas. Intra operative consultation from onco-surgeons, general surgeons, colo-rectal surgeons and urologists will play a crucial role in restoring the anatomy.

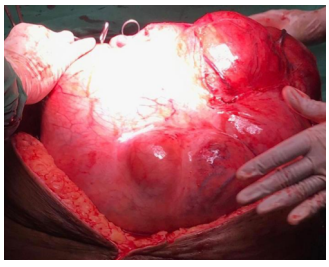
The skin incision should allow easy manipulation of the mass and exploration of the upper abdomen. Pre operative mechanical bowel preparation may decrease the risk of bowel injury and aid visualization. Diligent pre-operative management and multi-disciplinary patient care are essential to prevent morbidity and mortality.

CONCLUSION:

Extra-uterine fibroids are usually rare. Although they are histologically benign, they may mimic malignant tumours at imaging and present a diagnostic challenge. So the differential diagnosis of extra-uterine fibroid should be considered in cases of pelvic masses with normal uterus and ovaries. Hence this case will facilitate in creating a clinical awareness of how these unusual fibroids will present and will help in making better and early diagnosis of such cases.



Intra-Operative picture showing a huge abdomino-pelvic mass.



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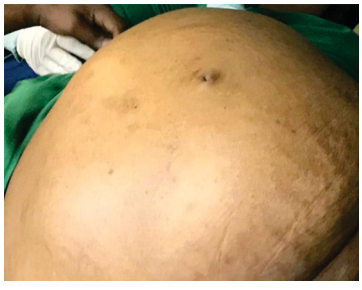
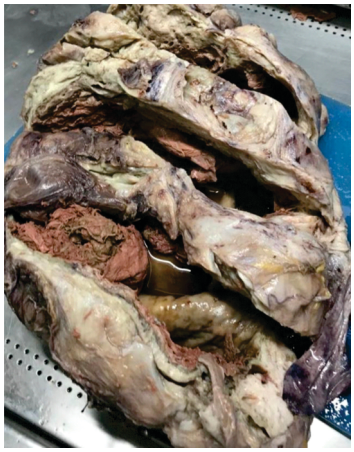
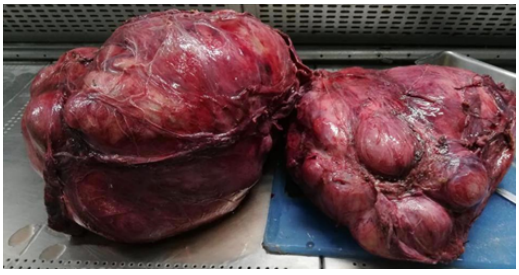


Pre-operative picture of the abdomen.

Cut-section of the ovary showing features suggestive of dermoid cyst



Cut-section of the leiomyoma showing secondary degenerative changes.Gross image of the mass after resection.



Gross image of the mass after resection.

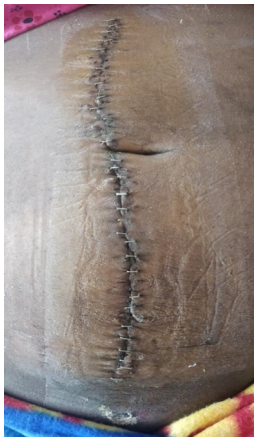


Image showing closure of the abdomen using surgical staples.

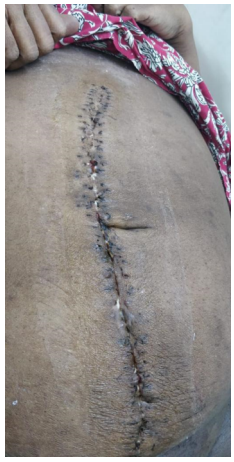
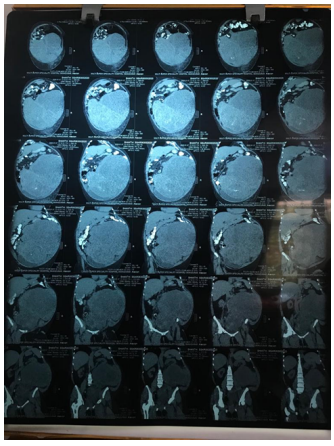
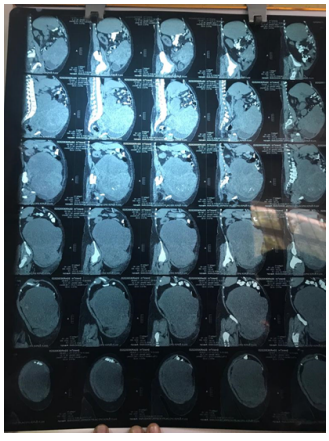


Image at Post operative day 14 taken after removal of staples.



CECT of Abdomen and Pelvis showing a huge mass displacing the adjacent structures.



CECT of Abdomen and Pelvis showing a huge mass displacing the adjacent structures.

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