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Broad ligament fibroid as an incidental finding in an unruptured ectopic

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Abstract
Leiomyomas (fibroid) are a group of benign smooth muscle tumours of monoclonal origin. They are described as subserous, interstitial or submucous, according to their relationship to the peritoneal coat and to the endometrium. Their site is determined by the position of their origin and by the direction in which they grow. 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. We herein report a rare case of leiomyoma of broad ligament which was found out incidentally in an unruptured ectopic pregnancy. The patient presented with complaints of pain in the lower abdomen with a history of amenorrhea of 1 ½ month. She was treated surgically by the complete removal of the leiomyoma along with the removal of the ectopic pregnancy.

Keywords: Broad ligament fibroid, ectopic

Introduction
Uterine leiomyomas are one of the most common benign tumors of the reproductive tract, affecting more than 70% of women in their lifetime [1]. Leiomyomas can arise from any tissue including the broad ligament. The incidence of broad-ligament leiomyoma is <1% [2]. As a diagnostic criterion, broad ligament leiomyoma must be completely separated from and in no way connected with either the uterus or the ovary. These tumours usually are attached by a stalk to the broad ligament, which is also responsible for their blood supply. Although in most cases broad ligament leiomyomas are asymptomatic, they may present pelvic pain or a palpable pelvic/ abdominal mass. Pelvic pain may be due to pressure effects on adjacent organs, such as bladder or rectum, or torsion. A 32 year old Asian woman with previous two cesarean sections with unruptured left ectopic pregnancy with an incidental finding of broad ligament is presented herein.

Case Report
A 32 year old woman G3P2L2 with previous two cesarean sections presented to the emergency department with a history of amenorrhoea of 1 ½ months and pain lower abdomen since a week. Her urine pregnancy test was found to be positive at one and a half months. There was no complaint of vaginal bleeding or discharge per vaginum. General physical examination revealed an ill-defined non tender mass palpable in the right side of the lower abdomen. Beta hcg level done was found to be raised. The rest of the laboratory investigations done were within normal limits. A transvaginal ultrasound examination revealed a 16.1 x 10.9 cm large heterogenous mass in the right adnexa, encircling around the uterus, showing vascularity and multiple foci of calcification within the mass. Left ovary was found to be normal.
MRI of pelvis showed a large predominantly solid mass of about 14.4 x 11.4 x 12.cm in size with multiple internal hypointense nodular areas in the right side of the pelvis, communicating with the right wall of the uterus. Right ovary was not visualized. A thick ring like structure about 2.0 x 1.7 x 3.0 cm was seen in left adnexa suggestive of unruptured ectopic pregnancy. B-hCG levels done were found to be raised pointing to an ectopic pregnancy. Serum CA-125, α-Fetoprotein and lactate dehydrogenase were within normal limits. After a complete workup, patient was taken up for exploratory laparotomy, where a large mass measuring about 20 x 15 cm with multiple extensions was found deeply embedded into the retroperitoneum and adherent to the lateral pelvic wall abutting the ureter laterally and rectum posteriorly.

The mass was embedded deep into the peritoneal cavity hence, was removed in toto with great difficulty. Thereafter the unruptured ectopic pregnancy of left ovary was removed.

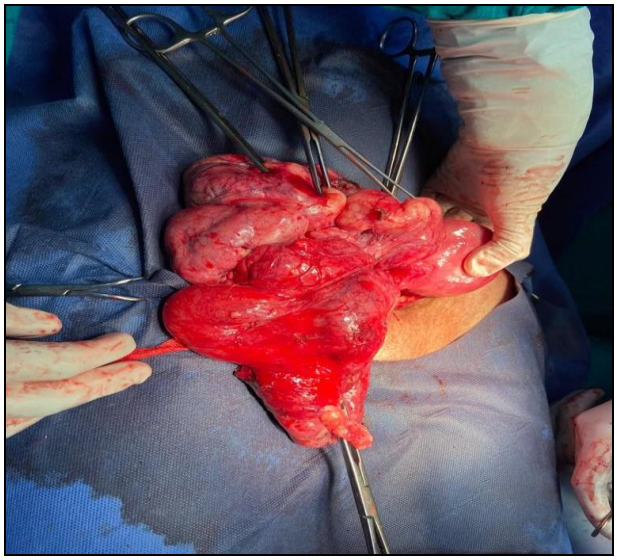

Fig 1: A huge broad ligament fibroid as seen in laparotomy

Histopathology

Histopathology report of the tumour showed spindle cell neoplasm with cells arranged in bundles and fascicles, nuclei oblong. Mitotic figures were sparse. Areas of hyalinization, cystic degeneration and myxoid changes present. All this favoured the diagnosis of leiomyoma with degenerative changes. Tumour cells were sent for marker studies for confirmation of diagnosis and was found positive for SMA and desmin and negative for CD117.

Discussion

Leiomyomas are the commonest uterine neoplasms, occurring in around 20-30% of women in the reproductive age group. They are composed of smooth muscle and fibrous tissue and are benign in nature. Based on their location within the uterine wall, leiomyomas are classified into submucosal/subendometrial, intramural/myometrial or subserosal leiomyomas. The latter may be pedunculated and simulate adnexal masses [3].

A subserosal leiomyoma may be exophytic or pedunculated. It may mimic an adnexal mass if it is attached to the myometrium by only a thin stalk, from which it receives blood, or if it is parasitized, meaning it receives blood from nearby structures. An exophytic or pedunculated leiomyoma also may mimic a cystic adnexal mass if cystic degeneration is present. The presence of a pedicle or a vessel bridging the mass and the myometrium, a finding known as the bridging-vessel sign, is indicative of leiomyoma [3, 5].

Transabdominal and transvaginal sonography are the primary and most cost effective imaging modalities for the detection of leiomyomas. However some features such as degenerative change or a vascular pedicle in a pedunculated fibroid adds to the diagnostic confusion sonographically. CT is secondary modality for diagnosing or evaluating leiomyomas [3].

Occasionally, leiomyomas become adherent to surrounding structures (eg, the broad ligament, omentum, or retroperitoneal connective tissue), develop an auxiliary blood supply, and lose their original attachment to the uterus, thus becoming “parasitic.” It also has been suggested that leiomyomas that are adherent to the broad ligament originate from hormonally sensitive smooth muscle elements of that ligament [4].

Clinically, these lesions may manifest as extrauterine pelvic masses that compress the urethra, bladder neck, or ureter, producing symptoms of varying degrees of urinary outflow obstruction or secondary hydroureteronephrosis.

Broad ligament leiomyomas are associated with pseudo–Meigs syndrome and produce an elevated CA-125 level that may clinically mimic that in metastatic ovarian carcinoma, thereby causing diagnostic confusion.

Anatomical location within the broad ligament has previously been associated with an increased complication risk at myomectomy. The rarity of broad ligament fibroids, and the potential for misdiagnosis as ovarian or retroperitoneal tumours makes the development of standardized ultrasound criteria extremely difficult [6].

MR imaging, with its multiplanar imaging capabilities, also may be extremely useful for differentiating broad ligament leiomyomas from masses of ovarian or tubal origin and from broad ligament cysts [4]. Given the superior sensitivity of MRI in assessing fibroids [7], a prospective study evaluating all lateral fibroids by MRI may improve the positive predictive value for broad ligament fibroids.

Surgery in such cases is challenging because of size and location of these fibroids especially since surrounding organs such as ureter, intestines and urinary bladder are at risk to get injured.

Conclusion

The diagnosis of broad ligament leiomyoma is difficult on clinical and radiological features owing to its rarity and unusual presentation. This case is reported to emphasize the surgical complications they can cause, highlighting a rare incidence of broad ligament fibroid which presented with ipsilateral ectopic pregnancy. During surgery extensive retroperitoneal dissection had to be done to remove the fibroid which was huge, soft, necrotic and multiloculated taking care of the ureters and blood vessels laterally and rectum posteriorly.

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