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Case Report

A massive degenerated uterine leiomyoma masquerading as an ovarian malignancy: a diagnostic dilemma

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ABSTRACT

Leiomyoma of the uterus is the most common tumour of the female pelvis arising from the uterine smooth muscle. Large cystic degenerations and leiomyomas located in the adnexa can mimic ovarian malignancy and challenge the radiologist and the operating surgeon. We report here an unusual case of large cystic, degenerated uterine leiomyoma mimicking malignant ovarian tumour on imaging.

Keywords: Leiomyoma, Cystic degeneration, Ovarian malignancy

INTRODUCTION

Leiomyoma of the uterus is the most common tumour of the female pelvis. Leiomyomas affect 50-60% of women, increasing to 70% by the age of 50.[1] A third of cases result in morbidity because of abnormal uterine bleeding (heavy menstrual bleeding that induces anaemia) and pelvic pressure (urinary symptoms, constipation, and tenesmus). The size of the myoma may vary from microscopic to the giant myomas, rarely they are associated with malignant degeneration. The giant myomas are exceedingly rare. Typical appearances of leiomyoma are easily recognised on imaging. However, the atypical appearance that follow degenerative changes can cause diagnostic dilemma. Here, we report an unusual case of large cystic, degenerated uterine leiomyoma mimicking as a malignant ovarian tumour.

CASE REPORT

A 37-year-old P2L2, presented to the OPD with the chief complaints of abdominal distension for 1.5 years and dyspepsia for 6 months. Abdominal distension was gradually increasing in size for last 1.5 years. She also gives history of generalized weakness, early satiety and loss of appetite; however, no history of weight loss was there. She had normal menstrual cycle without dysmenorrhea, no history of serious illness or surgical procedure and no family history of malignancy. She was an average built with moderate pallor and had no lymphadenopathy. Apart from moderate anaemia (haemoglobin was 8.9 gm%), rest of the investigations were within normal limit including tumour markers (CA-125 55.7 u/ml). On abdominal examination, an abdominopelvic mass of size 32 weeks was present. The mass was cystic in consistency, non-tender and regular margin with restricted mobility. On per vaginal examination, cervix felt high up behind the pubic symphysis uterus pushed anteriorly normal size, a large cystic to firm mass of around 30×20 cm was felt and the mass was occupying all the fornices and felt below the cervix, non-mobile. On per rectal examination rectal mucosa was free.

A transabdominal sonogram (TAS) revealed a uterus of normal size with endometrial thickness of 5.4 mm, a heterogenous space occupying lesion measuring 21.3×10.9 cm is seen in the right adnexa extending from right iliac fossa to pouch of Douglas. On subsequent computed tomography (CT) scan imaging, large well circumscribed cystic abdominopelvic mass extending on either side of the midline was seen but it was more to its

right which appears to be in continuity with the right adnexa and right ovary could not be visualized separately. Multiple internal septa of varying thickness are seen within the mass showing focal mural thickening and mild ascites with no abdominal lymphadenopathy (Figure 1 A and B). Findings were suggestive of ovarian neoplasm.

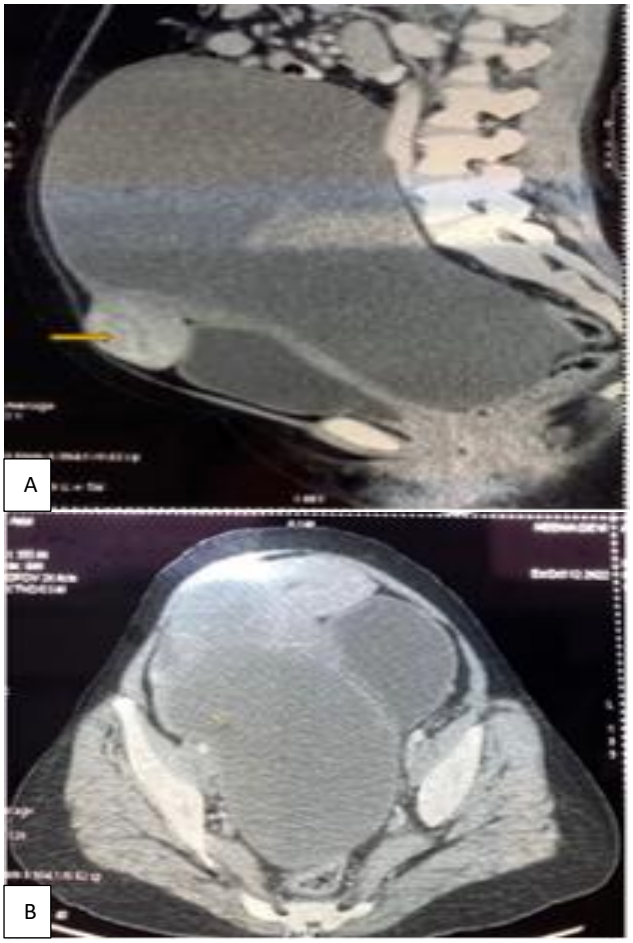

Figure 1 (A and B): CT of adnexal mass with uterus-longitudinal image on CT and yellow arrow shows uterus and cross-sectional view of the CT image of adnexal cyst with septation.

Patient underwent exploratory laparotomy with a preoperative diagnosis of right ovarian tumour. Intraoperatively, a cystic mass of about 30×30 cm was arising from the cervix suggestive of cervical fibroid, uterus was sitting on the fibroid, giving the appearance of a Lantern on Saint Paul's Dome and bilateral fallopian tubes and ovaries were normal. (Figure 2 A and B). On cut section, fibroid was showing cystic degeneration, fibroid was removed followed by total abdominal hysterectomy with bilateral salpingectomy as the family was completed. Cytology of peritoneal fluid showed no malignant cells. Histopathological examination showed features of leiomyoma with areas of degeneration including hyalinization and cystic changes. Postoperative course was uneventful and patient was discharged in a stable condition.

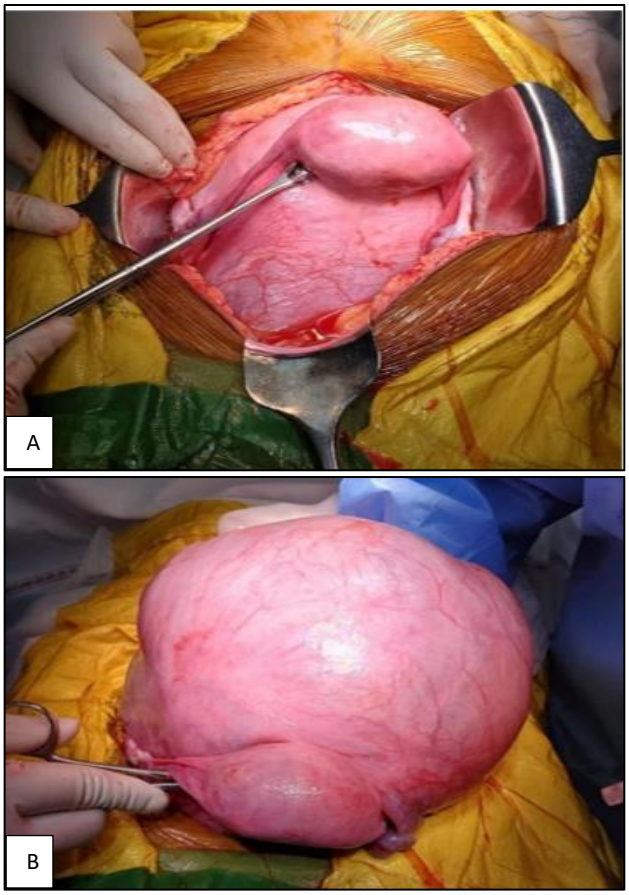

Figure 2 (A and B): Uterus with round ligaments and stretched fallopian tubes and uterus with large cervical fibroid.

DISCUSSION

Leiomyoma is the most common benign tumour of the uterus and they occur in 20-30% of women of reproductive age group. They most commonly involve the uterine corpus, but may also occur in the cervix in a minority of cases. Cervical leiomyoma comprises of the 0.6-0.7% of all leiomyomas.[2] Most common presenting complaint of leiomyomas are abnormal uterine bleeding (44%), followed by bulk-related symptoms (20%), chronic pelvic or back pain (14.6%), dysmenorrhoea (11%) and chronic urinary complaints (11%). Infertility was observed in 4.6% and 7.7% of asymptomatic cases.[3]

As leiomyoma enlarge, they may outgrow their blood supply, resulting in various types of degeneration. These include hyaline, cystic, myxoid or red degeneration and dystrophic calcification.[4]

Transabdominal or transvaginal ultrasonography (USG) are the primary and the most effective modality for diagnosing leiomyoma because of its characteristic homogeneous hypoechoic appearance. The relative echogenicity of leiomyoma depends on the ratio of fibrous tissue to smooth muscle, the extent of degeneration and the presence of dystrophic calcification. However,

degenerative changes may result in heterogeneous or unusual presentation leading to diagnostic dilemma.[5] Normally leiomyomas on CT scan shows intermediate signal intensity on T1 and low signal intensity on T2 weighted images, however myxoid degeneration and necrosis may show high signal intensity on T2 weighted images. Hyaline degeneration sometimes on CT may show cobblestone like appearance with high signal intensity foci in both T1 and T2 weighted images representing areas of infarction due to rapid growth.[6] Very few leiomyomas with cystic degeneration and extensive edema may lead to cystic fluid spaces. When this occurs, the presence of vessels bridging the mass and the myometrial tissue known as the bridging vessel sign, helps identify the condition as leiomyoma. CT scan is not the primary modality for diagnosing leiomyoma but they can incidentally be found in CT scan. Leiomyomas with degenerative changes have a lower attenuation appearance, with diminished contrast material enhancement. Most common problem with the large leiomyomas is the identification of origin of mass and non-visualisation of adenexa. To differentiate between sub-serosal fibroids and adnexal masses, the 'interface vessel sign' can be of help which can be seen both on colour Doppler and MRI, Uterine origin is confirmed by the presence of tortuous vessels at the interface of the mass with the uterus.

Very few leiomyomas showing this marked degree of hydropic degeneration have been reported in the literature. Large size and cystic degeneration of leiomyoma mainly lead to false diagnosis of primary ovarian malignancy. A similar case reported by Low et al of a 56-year-old post-menopausal woman who presented with the right pelviabdominal mass. Ultrasonography and CT scan examination showed a large extrauterine predominantly cystic mass with a solid component, mass arising from the right adnexa and extending into the abdomen. A preoperative diagnosis of a primary malignant ovarian tumour was made and intraoperatively, large mass was found to arise from the uterine fundus without ovarian involvement. Histology showed leiomyoma with extensive cystic degeneration.[7]

Akkour et al reported a case of giant degenerated leiomyoma of size 33×24×15 cm mimicking as aggressive uterine or ovarian tumor and histopathology showed massive leiomyoma with cystic hydropic degeneration.[8]

CONCLUSION

Leiomyomas usually have typical appearances on ultrasound, however atypical appearance that follows the degenerative changes can have variable patterns and pose diagnostic dilemmas. But a good, clinical and USG correlation, with a thorough knowledge of variable USG appearances of degenerating fibroids, will generally lead to the correct diagnosis. An appropriate evaluation of the clinicopathological features is vital to ensure appropriate management and not to erroneously diagnose a benign leiomyoma as a more aggressive type of tumor.

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