



Uterine Leiomyosarcoma in a Patient with Classic Presentation of Ovarian Cancer: A Case Report

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ABSTRACT

Leiomyosarcoma is a rare gynaecologic malignancy accounting for approximately 3-9 percent of all tumours derived from the uterus. Several case reports have noted elevated levels of CA-125 with leiomyosarcoma, though this is not typical. Here we report a case of a patient with leiomyosarcoma, presenting with a suspicious adnexal mass and clinical presentation suggestive of ovarian carcinoma.

Keywords: Leiomyosarcoma, Ovarian carcinoma.

INTRODUCTION

Leiomyosarcoma is a rare gynaecologic malignancy accounting for approximately 3-9 percent of all tumours derived from the uterus [1,2]. Uterine sarcoma classically presents with abnormal vaginal bleeding, pelvic pain/pressure, abdominal distention and often an enlarged uterine mass. Known risk factors increasing are age, chemical exposure (vinyl chloride, herbicides), immunosuppressive therapy, autoimmune diseases, long-term tamoxifen therapy, and transplant surgery [3]. Evaluation is typically performed with ultrasound and CT imaging and occasionally tumour markers, although tumour markers are not routinely completed. These tumours are characterized histologically with prominent cellular atypia, abundant mitoses, and coagulative necrosis [3]. Gross tumour specimens are white, tan, or yellow large solitary tumours with regions of necrosis and haemorrhage. Metastasis through the blood with uterine sarcomas is very common routes often metastasizing to the lungs [4,5] Survival is less well defined for this disease ranging from 5-year survival rate of 63% in stage I to 14% in Stage III to IV. Several case reports have noted elevated levels of CA-125, though this is not typical [6,7]. Diagnosis requires histologic sampling, following myomectomy or hysterectomy. Here we report a case of a patient with leiomyosarcoma, presenting with a suspicious adnexal mass and clinical presentation suggestive of ovarian carcinoma.

CASE PRESENTATION

A 56-year-old P3043 presented with worsening abdominal pain and bloating over the past 6 months. Patient had known history of fibroids and endometriosis. Significant laboratory findings included an elevated cancer antigen 125 (CA-125) of 377.8 U/mL.

Pelvic sonography showed 12.3 × 11.9 × 8.8 cm complex right adnexal mass. In the region of the right adnexa is a heterogeneous complex mass with solid and cystic appearing components measuring approximately 12.3 × 11.9 × 8.8 cm with vascular flow. In addition, the presence of multiple uterine fibroids was discovered, the largest measuring 7 × 7 × 7.5 cm (Figures 1-4).

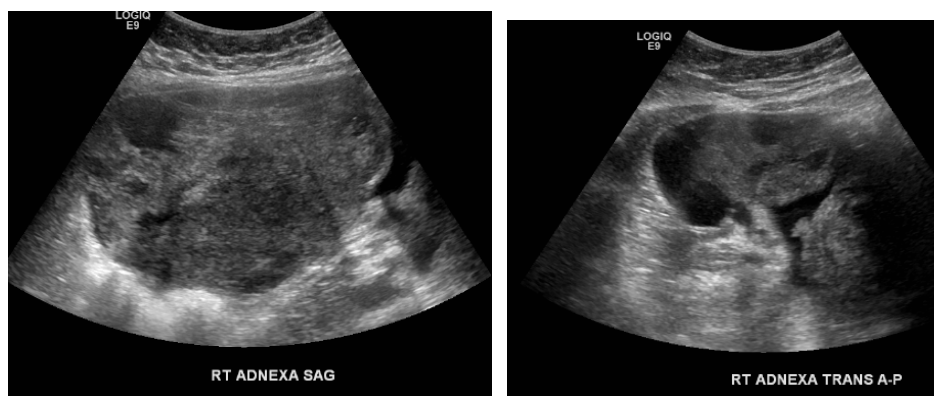


Figure 1 Trans-abdominal sonogram visualizing right pelvic mass

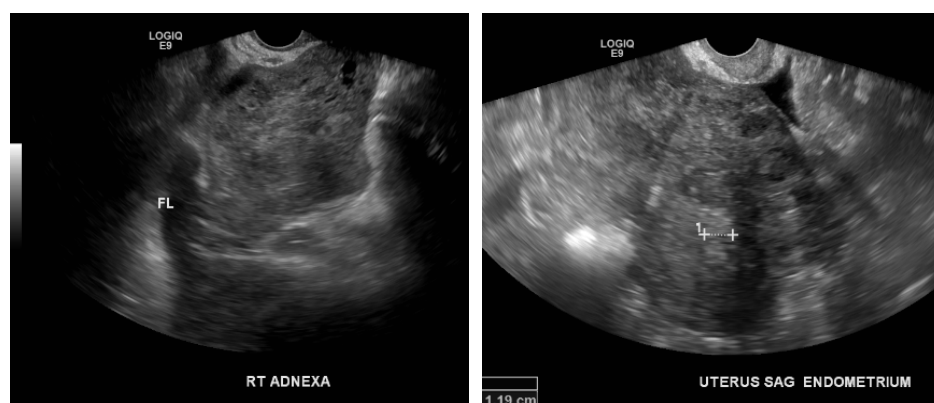


Figure 2 Trans-vaginal sonogram visualizing uterus and endometrium

CT abdomen and pelvis with contrast was ordered. The impression returned as right bulky solid and cystic masses in the pelvis extending to the cul-de-sac. There is a large solid and cystic mass in the left midabdomen measuring up to 13.4 cm in diameter. Irregular soft tissue nodularity is noted on the inferior aspect of the pelvic peritoneal surfaces with a moderate to large amount of ascites. This is consistent with peritoneal carcinomatosis.

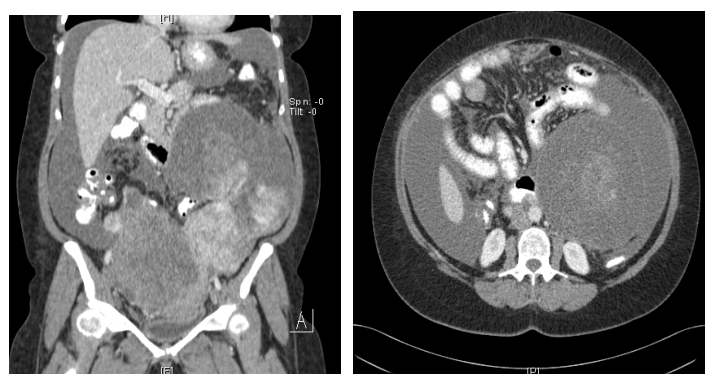


Figure 3 Views of CT abdomen/pelvis visualizing uterus and adnexal mass

Intraoperative findings

In the operating room, an exploratory laparotomy was performed via a midline abdominal incision. Upon entering the sub peritoneal space approximately 2.5 L of yellow ascites was removed. A large tumour mass, measuring approximately 8 cm, was identified in the anterior cul-de-sac. A right adnexal mass was present measuring approximately 15 × 10 cm. The uterus had multiple large masses, the largest near the fundus measuring approximately 8 cm. The liver edge, diaphragm, bowels, omentum, and mesenteric surfaces were grossly normal. A total abdominal hysterectomy, bilateral salpingo-oophorectomy, pelvic node sampling, omentectomy, peritoneal biopsies and tumour de-bulking was performed. The abdomen was copiously irrigated then closed in a typical layered fashion.

Pathology

Gross findings included 2 subserosal masses, measuring $7.0 \times 5.5 \times 4.5$ cm and $12.2 \times 7.1 \times 3.9$ cm. Serial sectioning of the smaller mass revealed a white whorled appearance. The larger mass was opened, with haemorrhage, necrosis, and solid and cystic areas. Multiple intramural masses were present, ranging in size, all exhibiting a white whorled appearance.

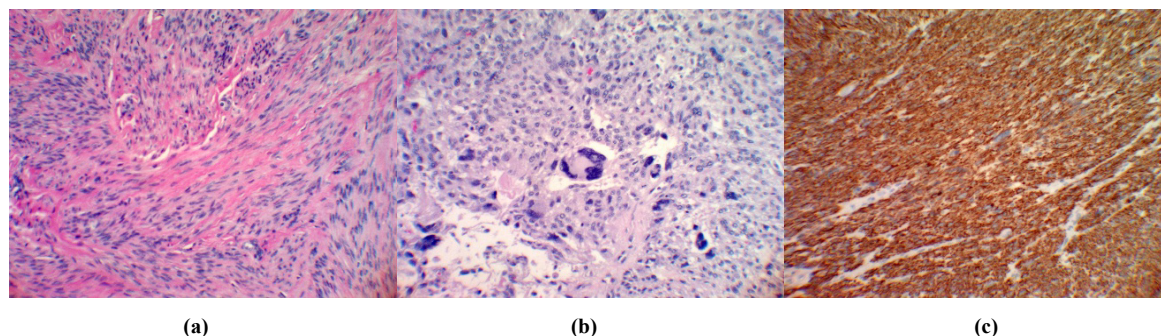


Figure 4 Histologic examination of uterine tissue

- (a) Uterine leiomyoma: Well-differentiated, regular spindle-shaped smooth muscle cells with “school of fish” appearance
 (b) Uterine leiomyosarcoma: Tumour cells are irregular in size with hyperchromatic nuclei and numerous mitotic figures
 (c) Uterine leiomyosarcoma: (+) Smooth muscle myosin stain indicating stromal (mesodermal) origin of malignant cells

The left ovary is unremarkable and measures $2.0 \times 1.6 \times 1.1$ cm, the right ovary is larger measuring $3.8 \times 3.2 \times 1.1$ cm. Upon sectioning, a diffuse pink-tan solid structure is present (Figure 4). The mass taken from the anterior cul-de-sac was sectioned showing a white tan whorled appearance with cystic and degenerating changes. A final diagnosis of stage 2b uterine leiomyosarcoma, with involvement of the right ovary was made [8].

DISCUSSION

Uterine leiomyosarcoma represents a small percentage of uterine malignancies, which arise from the stroma, and are significantly more aggressive as compared to endometrial carcinoma. Often these lesions are diagnosed following surgery, particularly when concomitant leiomyomas and/or adnexal masses are present [9,10]. Adnexal masses in postmenopausal patients are highly suspicious for ovarian neoplasm. Ovarian epithelial carcinomas typically present with abdominal pain and distention, gastrointestinal complaints, with a palpable mass and pelvic ascites on imaging. With a lack of vaginal bleeding and classic characteristics of ovarian neoplasm including presence of a right adnexal mass, pelvic ascites, elevated CA-125 and pre-existing fibroids, initially diagnosing leiomyosarcoma in this patient was not likely. An additional factor masking the primary diagnosis was the nature of involvement of the right adnexa from direct extension of the tumour.

CONCLUSION

Although knowing the primary cancer initially would not have changed the management or operative course, these circumstances are a reminder that pathology may present in various forms. As patient had Stage IIB Leiomyosarcoma, she will be followed up for further treatment with haematology, gynaecologic oncology, interventional radiology.

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