CASE REPORT

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A BENIGN SPINDLE CELL TUMOR-UNCOMMON CAUSE OF ADNEXAL MASS

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Abstract

Due to the higher risk of cancer, adnexal masses in postmenopausal women are clinically relevant. Aggressive surgical intervention and thorough histological investigation are frequently required when radiological findings reveal ovarian cancer. Adnexal benign spindle cell tumours are extremely rare and can resemble malignant ovarian neoplasms both radiologically and clinically. We report the case of a 69-year-old postmenopausal lady who complained of lower abdomen pain and had a big right adnexal tumour with imaging characteristics that could indicate ovarian cancer. A heterogeneous enhancing adnexal lesion with loss of fat planes and accompanying lymph nodes that seemed necrotic was shown by contrast-enhanced computed tomography. The patient had an appendicectomy, infracolic omentectomy, bilateral salpingo-oophorectomy, and total abdominal hysterectomy. Intraoperative frozen section analysis revealed a benign spindle cell lesion, and conclusive histological analysis verified leiomyoma originating from the adnexal region with hyalinization and cystic degeneration. The time following surgery was uneventful. This case demonstrates the difficulty in diagnosing uncommon benign spindle cell tumours of the adnexa and the critical role histology plays in distinguishing benign lesions from gynaecologic cancers.

Keywords: *Adnexal mass; Benign spindle cell lesion; Leiomyoma; Postmenopausal woman; Ovarian malignancy mimic; Histopathology; Frozen section.*

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INTRODUCTION

Adnexal masses in elderly and postmenopausal women constitute an important diagnostic challenge because the risk of malignancy significantly increases with advancing age.Radiological interpretation and histological confirmation are essential for diagnosis and treatment of ovarian carcinoma, which is still one of the most common gynaecologic cancers and often exhibits nonspecific clinical signs. Nonetheless, a number of benign lesions may clinically and radiologically resemble malignant ovarian tumours.

The form of the cancer cells gives rise to the term "spindle cell sarcoma." The symptoms worsen as the cancer progresses through the phases, starting with a small lump and inflammation. A soft tissue cancer that starts in the bones is called spindle cell sarcoma. The kind and intensity of spindle cell sarcoma symptoms are determined by the tumor's size, location, and stage [1].The arms, legs, and pelvis are frequently affected by spindle cell sarcomas, a kind of bone sarcoma. They are extremely rare, making up only 2-5 percent of all occurrences of primary bone cancer, and they are most common in persons over 40. A malignant tumour that can develop in soft tissue or bone is called spindle cell sarcoma. Although it can occur anywhere on the body, the limbs (arms and legs) are where it most frequently occurs. An unusual type of cancer that appears as a polypoid exophytic tumour is called spindle cell carcinoma. Other names for it include carcinosarcoma, pseudosarcoma, polypoid carcinoma, sarcomatoid carcinoma, and the spindle cell variant of squamous cell carcinoma [2-6].

With an estimated yearly incidence of 0.36 to 0.64 cases per 100,000 women, uterine sarcomas are rare cancers that make up less than 1% of all uterine cancers [7]. They fall into a number of histological subgroups, such as endometrial stromal sarcoma (ESS), leiomyosarcoma, and undifferentiated UUS, or uterine sarcoma [8]. Spindle cell variants are particularly aggressive, with a tendency for early local invasion and metastasis. We present a rare case of a benign spindle cell leiomyomatous lesion arising in the adnexal region in a postmenopausal woman, initially suspected radiologically to be malignant ovarian pathology.

CASE PRESENTATION

A 69-year-old postmenopausal woman, gravida 2 para 1 living 1 deceased 1 (P2L1D1), presented to the Department of Obstetrics and Gynecology with complaints of non-radiating lower abdominal pain for 15 days. The pain was insidious in onset and not associated with aggravating or relieving factors. There was no history of postmenopausal bleeding, white discharge per vaginum, burning micturition, abdominal distension, fever, weight

loss, bowel disturbances, chest pain, dyspnea, or constitutional symptoms.

The patient had attained menopause approximately six years earlier. Her obstetric history included a full-term normal vaginal delivery and one neonatal loss. She had undergone abdominal tubectomy nearly 40 years earlier following her last childbirth. She was a known case of type 2 diabetes mellitus and systemic hypertension for six years and was on regular oral medications. There was no significant history of tuberculosis, bronchial asthma, epilepsy, thyroid disease, or cardiac illness.

On general physical examination, the patient was afebrile and hemodynamically stable. There was no pallor, icterus, cyanosis, clubbing, edema, or lymphadenopathy. Systemic examination revealed abdominal obesity and a paraumbilical hernia, which was non-reducible. Abdominal palpation did not reveal organomegaly or any obvious palpable mass.

Per speculum examination demonstrated cervical congestion. On bimanual pelvic examination, the uterus was anteverted and approximately equivalent to a 10–12-week gravid uterus in size. Bilateral fornices were free and non-tender, although a cystic fullness was appreciable through the fornix and the right fornix could not be clearly delineated.

Table 01: Haematological Investigations

Date	Haemoglobin (g/dL)	RBC Count (million/mm^3)	PCV (%)	Platelet Count (/mm^3)	Total WBC Count (/mm^3)
25/02/2025	9.9	3.82	29.8	239,000	6,360
07/03/2025	9.5	3.68	28.1	229,000	8,490
08/03/2025	11.2	4.81	34.6	358,000	9,270

Routine haematological investigations revealed mild anemia. Renal function tests, liver function tests, and serum electrolytes were within normal limits. Blood glucose values were elevated, consistent with her known diabetic status. Pap smear examination was negative for intraepithelial lesion or malignancy, while endometrial biopsy demonstrated proliferative endometrium. Histopathological details from the uploaded pathology report confirmed the benign nature of the lesion.

Table 02: Renal Function and Electrolyte Investigations

Date	Blood Urea (mg/dL)	Serum Creatinine (mg/dL)	Sodium (mEq/L)	Potassium (mEq/L)
25/02/2025	21	0.5	131	4.6
06/03/2025	13	0.4	136	4.3
08/03/2025	21	0.6	131	3.7

Table 03: Blood Sugar Profile

Date	Investigation	Value
06/03/2025	Fasting Blood Sugar (FBS)	168 mg/dL
06/03/2025	Postprandial Blood Sugar (PPBS)	279 mg/dL
10/03/2025	Fasting Blood Sugar (FBS)	199 mg/dL
10/03/2025	Postprandial Blood Sugar (PPBS)	264 mg/dL

Table 04: Cytology and Histopathology Investigations

Investigation	Findings
PAP Smear	Negative for intraepithelial lesion or malignancy (NILM)
Endometrial Biopsy	Endometrium in proliferative phase
Frozen Section	Benign spindle cell lesion
Final Histopathology	Leiomyoma with hyalinization and cystic degeneration

Contrast-enhanced computed tomography (CECT) of the abdomen and pelvis revealed a well-defined soft tissue density lesion in the right adnexal region crossing the midline and demonstrating heterogeneous post-contrast enhancement with non-enhancing cystic areas and calcific foci. The right ovary was not visualized separately. Loss of fat planes with the uterine fundus raised suspicion of malignant ovarian pathology. Multiple non-enhancing fluid-density lesions were also noted along the right ovarian vein and inferior vena cava, suggestive of necrotic lymph nodes.

Considering the patient's postmenopausal status and radiological suspicion of malignancy, exploratory laparotomy was planned. Intraoperatively, a solid right adnexal mass measuring approximately 12 × 10 cm was identified, appearing to arise from the round ligament region. Multiple uterine fibroids were also present, the largest measuring approximately 4 × 3 cm at the fundus.

The patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and appendicectomy under combined general and epidural anesthesia. Frozen section analysis of the right adnexal mass demonstrated features of a benign spindle cell lesion. Definitive histopathological examination revealed a leiomyoma composed of spindle-shaped cells arranged in fascicles with bland oval nuclei and eosinophilic cytoplasm. Areas of hyalinization and cystic degeneration were identified. The right ovary and fallopian tube showed normal histology, while the paratubal cyst demonstrated features of a simple cyst. Histopathological findings from the uploaded report documented the spindle cell morphology and leiomyomatous features.

The postoperative period was uneventful. The patient recovered satisfactorily and was discharged in stable condition with advice regarding glycemic control, antihypertensive therapy, wound care, ambulation, adequate oral hydration, and follow-up for suture removal.

DISCUSSION

Adnexal masses in postmenopausal women represent a significant diagnostic challenge because of the inherently increased risk of gynecological malignancy in this age group.Radiological results may significantly overlap between benign and malignant diseases, and clinical presentation is frequently nonspecific. As a result, preoperative interpretation of adnexal lesions exhibiting heterogeneous enhancement, solid components, calcifications, necrotic alterations, or loss of tissue planes as malignant ovarian tumours is common. A large heterogeneous right adnexal mass that crossed the midline, non-enhancing cystic areas, calcific foci, non-visualization of the right ovary, and suspected necrotic lymphadenopathy along the right ovarian vein and inferior

vena cava were among the imaging features in this case that strongly suggested ovarian malignancy.

A rare class of mesenchymal tumours known as benign spindle cell lesions is distinguished histologically by spindle-shaped cells organised in fascicles or sheets. These lesions are more common in soft tissues, the uterus, and the breast, but they are extremely uncommon in the adnexal area. Nodular fasciitis, inflammatory myofibroblastic tumours, solitary fibrous tumours, schwannomas, and leiomyomatous lesions are the majority of benign spindle cell lesions documented in the literature. Their scarcity within the adnexa frequently results in an initial suspicion of cancer and greatly increases diagnostic ambiguity.

According to Duran B et al [3]., a 40-year-old woman with a pelvic tumor had tubal schwannoma following a laparotomy that completely removed the lesion and uterus [9]. Philip C. et al [4]. Described eight numbers of mesonephric adenocarcinomas at the cervical area of the uterus in another case series [10]. Four of these cases included a malignant spindle-cell component, but none of them turned out to be benign spindle-cell lesions. With one probable exception, the infrequently described instances at this adnexal location are tumors with a benign spindle cell component.

Only after bland-looking but possibly aggressive spindle cell tumors that they may be mistaken with have been ruled out may a "benign spindle cell lesion" at the adnexal region be diagnosed. Nonspecific radiographic findings are commonly described as "benign," "indeterminate," or "suspicious for malignancy." It follows that certain benign spindle cell lesions are biopsied, which is not surprising.

For benign spindle cell lesions of the breast, surgical excision is typically sufficient therapy. However, some researchers have successfully suggested follow-up imaging as a substitute for excisional biopsy if the clinicopathologic findings are congruent with a diagnosis of pseudoangiomatous stromal hyperplasia or nodular fasciitis. This is corroborated by data showing that nodular fasciitis instances have been seen to spontaneously resolve, whereas some patients who had stromal hyperplasia removed have experienced local recurrence. Because there is little chance of local recurrence, long-term follow-up is recommended for patients with inflammatory myofibroblastictumor and solitary fibrous tumor, much like in other locations such adnexal regions.

CONCLUSION

Particularly in postmenopausal women, benign spindle cell leiomyomatous lesions of the adnexal region are extremely uncommon and can closely resemble ovarian cancer on imaging studies. These tumours' degenerative alterations could make radiological interpretation even more challenging. For a conclusive diagnosis, histopathological examination-including intraoperative frozen section analysis-remains essential. To prevent diagnostic mistakes and provide appropriate surgical care, it is crucial to be aware of such rare benign entities.

Patient Perspective

The patient experienced significant anxiety after being informed about the possibility of ovarian malignancy based on imaging findings. Following surgery and histopathological confirmation of a benign lesion, she expressed relief and satisfaction with the treatment outcome and postoperative recovery.

INFORMED CONSENT

Written informed consent was obtained from the patient for publication of this case report and associated clinical details while maintaining anonymity.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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