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(CASE REPORT)

CASE REPORT: INGUINAL BIPHASIC NEOPLASM WITH HISTOPATHOLOGICAL FEATURES SUGGESTIVE OF SYNOVIAL SARCOMA

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ABSTRACT

Synovial sarcoma is a type of soft tissue sarcoma. In spite of its name, it does not originate in synovial tissue (the lining of joints). Instead, it develops most commonly in the arms or legs. It is rare, representing 5% to 10% of soft tissue sarcomas, and it is aggressive. It can develop in people at any age, but it is most often seen in teens and younger adults, ages 15 to 40. This case describes a 26-year-old male who presented with a painless, growing mass for 3 years; he underwent surgical excision of the inguinal mass. Histopathological examination revealed typical findings for biphasic synovial sarcoma.

Keywords: Synovial sarcoma, Biphasic neoplasm, Inguinal mass, Spindle cells, Histopathology.

1 INTRODUCTION

Synovial sarcoma represents a mesenchymal tumor exhibiting partial epithelial differentiation, primarily affecting older children and younger adults.(1, 2)

Synovial sarcoma is devided into two major subtypes: monophasic and biphasic. The monophasic subtype can be either the spindle cell type (most common) or the epithelial subtype. The biphasic subtype includes both fibroblast-like spindle-shaped cells and epithelial cells (2).

This case is of interest because the diagnosis was misleading due to the site of the mass and its well-circumscribed appearance, and the presence of both epithelial and spindle cell components in the histopathologic exam suggested Biphasic synovial sarcoma.

2 CASE PRESENTATION

A 26-year-old male complained of a left, painless, enlarging inguinal mass for 3 years; on examination, it was mobile and non-tender and was thought to be a lipoma. He underwent a CT scan (figure 1)), which showed an enhancing, well-circumscribed mass in the left groin with surrounding fat stranding; no calcification or fat density component was noted within. Then he underwent surgical excision. The excised specimen was subsequently submitted to the pathology department for histopathological evaluation.

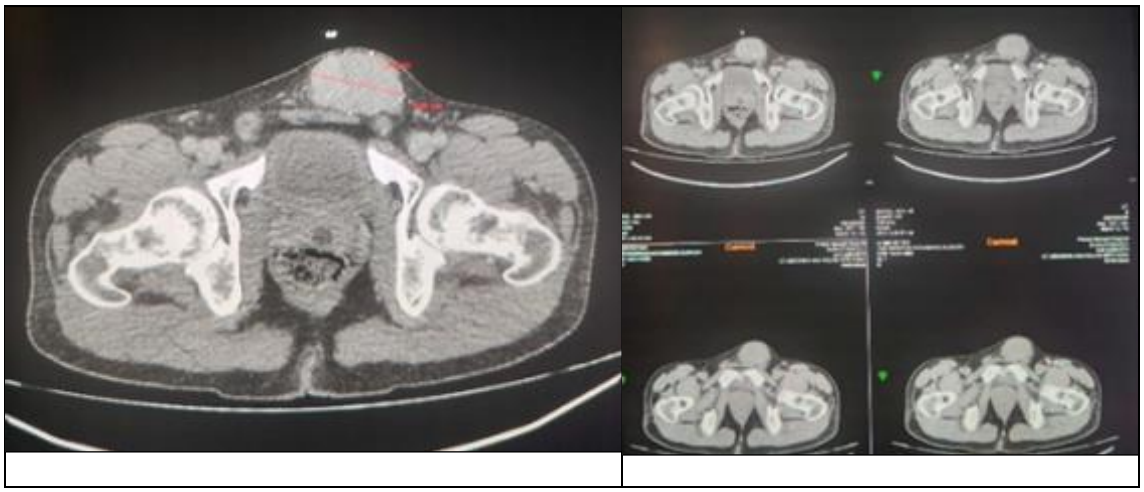


Figure 1: Axial CT images of the Pelvis show a left inguinal well circumscribed enhancing soft tissue mass lesion measuring 5.62 × 3.76 cm in axial dimensions with surrounding fa stranding. No calcification, necrosis, or fat-density content.

Following surgical excision, representative tissue sections were submitted in eight blocks for microscopic examination.

2.1 Histopathological Findings

Microscopic examination demonstrated a well-circumscribed biphasic tumor composed of two main cellular components:

- **Epithelial component:** Consisted of gland-like structures lined by cells with moderately abundant, distinct amphophilic cytoplasm and round-to-ovoid nuclei.
- **Spindle cell component:** Composed of relatively monotonous spindle-shaped cells with scant amphophilic cytoplasm, ovoid-to-spindled vesicular nuclei, evenly dispersed chromatin, and inconspicuous nucleoli.

Additional microscopic findings included focal areas of hemorrhage and myxoid changes.

The mitotic activity was recorded as up to seven mitotic figures per 1 mm^2. Importantly, no tumor necrosis or lymphovascular invasion was identified.

Regarding the surgical margins, the inked margin was found to be less than 0.1 cm from the neoplasm, indicating a very close excision margin.

2.2 Pathological Diagnosis

The final surgical pathology report described the lesion as:

2.3 Biphasic neoplasm with morphological features suggestive of synovial sarcoma.

The reported pathological characteristics were:

- Mitotic count: Up to 7 mitotic figures per 1 mm^2.
- Tumor necrosis: Not identified.
- Lymphovascular invasion: Not identified.
- Inked surgical margin: Less than 0.1 cm from the neoplasm.

2.4 Further Investigations

Although the microscopic appearance is typical for synovial sarcoma, morphology alone was considered insufficient to establish a definitive diagnosis.

The pathology report recommended additional investigations.

3 DISCUSSION

This case illustrates the diagnostic importance of recognizing the characteristic biphasic morphology of synovial sarcoma. The coexistence of spindle-shaped cells and gland-like epithelial structures is an important histological feature that raises suspicion for the biphasic subtype of this tumor.

The presence of up to seven mitotic figures per 1 mm^2 indicates proliferative activity. However, the absence of tumor necrosis and lymphovascular invasion represents additional relevant pathological findings.

One important consideration in this case is the close surgical margin. The distance between the inked margin and the neoplasm was less than 0.1 cm. Although this indicates that the tumor was close to the resection margin, it does not, by itself, establish that the margin is involved. Further assessment by the treating surgical and oncology teams is therefore important.

Post-surgical resection, the patient complained of pain and ecchymosis at the surgical site, so he underwent PET/CT (Figure 2) and pelvic MRI (Figure 3.)

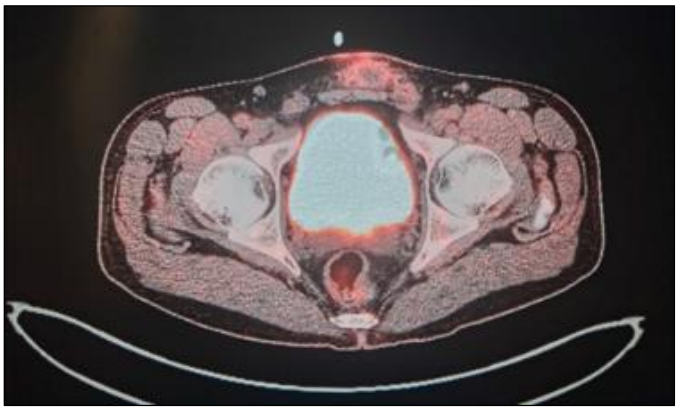


Figure 2: An axial image of fused PET/CT showing a suprapubic soft tissue mass with a cystic center showing peripheral mild hypermetabolic activity, measuring 4.6 x 2 cm with SUV max 2.7 could be post surgical inflammatory changes vs residual disease and needs clinical correlation and follow up.

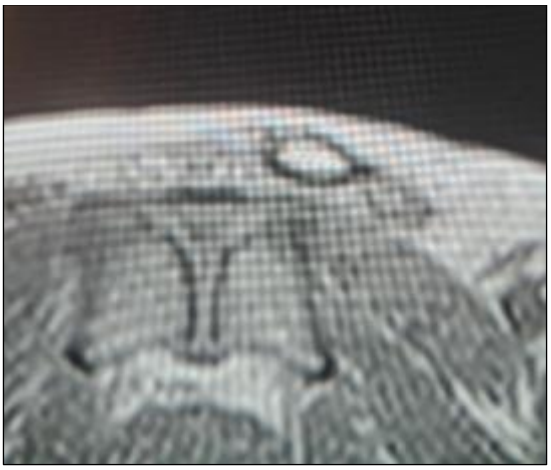


Figure 3: Coned down view of axial T1 pelvic MRI showing a well-circumscribed T1 hyperintense non-enhancing (on other sequences not shown here) oval lesion seen at the left groin at the surgical site, suggestive of post-surgical hematoma.

4 CONCLUSION

This case describes a biphasic inguinal soft-tissue neoplasm in a 26-year-old male, with histopathological features suggestive of synovial sarcoma. The tumor demonstrated both spindle cell and glandular epithelial components, with focal hemorrhage and myxoid changes. No necrosis or lymphovascular invasion was identified, although the surgical margin was very close to the lesion.

The case emphasizes the importance of considering synovial sarcoma or other rare tumors in evaluating painless growing masses in different locations of the body, as this case was first misinterpreted by the surgical team as a lipoma based on physical examination before doing further investigations.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

There are no financial or non-financial conflicts of interest.

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