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Surgical Resection of a 68-lbs Retroperitoneal Myxoid Liposarcoma

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Abstract
Liposarcoma is a malignant soft tissue tumor, with myxoid liposarcoma representing a distinct subtype characterized by a chromosomal translocation between chromosomes 12 and 16. Retroperitoneal myxoid liposarcomas are rare, often asymptomatic until they reach substantial size due to deep anatomical location. We report a case of a 41-year-old male with a prior history of high-grade myxoid liposarcoma of the knee, who presented with abdominal fullness, pain, and cachexia. Imaging revealed a massive retroperitoneal tumor. Surgical intervention involved complete tumor excision, right colectomy, and partial small bowel resection due to ischemia. The excised tumor weighed 68.1 lbs, one of the largest retroperitoneal liposarcomas reported. Pathology confirmed myxoid liposarcoma with negative margins. Despite successful surgery and recovery, the patient declined adjuvant chemotherapy and died eight months later.

Keywords: Myxoid liposarcoma, retroperitoneal, surgery, compliance, prognosis

Introduction
Liposarcoma is a malignant proliferation of lipoblasts in soft tissues. Common locations affected, by order of frequency, include the extremities (popliteal fossa), retroperitoneum, and esophagus. The average age at diagnosis is 50, although there are case reports of much younger individuals [1]. The exact cause and genetic mutation responsible for the tumor are still unknown. The American Cancer Society has identified risk factors for soft tissue sarcomas, including radiation, familial cancer syndromes, lymphatic system damage, and exposure to toxins [2]. However, liposarcoma can also occur in individuals with no identifiable risk factors.
While liposarcoma accounts for under 20% of soft tissue sarcomas in the United States, it is the most common soft tissue sarcoma worldwide according to the American Cancer Society, making it a significant contributor to the global cancer burden [1]. The World Health Organization has classified liposarcoma into three subtypes: well-differentiated and dedifferentiated, myxoid and round cell, and pleomorphic.
Myxoid liposarcoma, the focus of this case report, results from a reciprocal translocation between chromosomes 12 and 16, producing a fusion of the DDIT3 and FUS genes. This fusion activates downstream targets that promote cell cycle progression and proliferation [3]. Myxoid liposarcomas most often arise in the lower extremities.
Diagnosing liposarcoma is challenging because symptoms depend on tumor location and are largely due to mass effects. Common complaints include pain, tenderness, edema, and functional loss due to neurovascular compression. Other potential symptoms are paresthesia, varicose veins, fatigue, weight loss, nausea, and vomiting. Retroperitoneal liposarcomas often reach enormous sizes before detection [4]. Tumors exceeding 20 kg (44.1 lbs) are classified as giant retroperitoneal liposarcomas and are extremely rare.
The current treatment of liposarcoma, regardless of size, is surgical resection. Chemotherapy remains experimental with insufficient evidence of efficacy [5-8]. Positive surgical margins increase the risk of local recurrence nearly fourfold (9). Prognosis depends on histological subtype, grade, location, and resection margins. Myxoid tumors are associated with a high rate of local relapse (12-25%) and distant metastasis (30-60%) [10-12].

Case Report
A 41-year-old male from southern Israel presented with a two-month history of progressive abdominal pain, fullness, poor appetite, and supine discomfort. His medical history included high-grade myxoid liposarcoma of the left knee, diagnosed three years earlier and treated

with chemotherapy.

On examination, the patient appeared cachectic with a markedly distended abdomen. Laboratory studies showed normocytic anemia. His body weight was 154 lbs. Imaging revealed a massive retroperitoneal tumor occupying the abdominal cavity (Panel A).

Surgical resection included removal of the abdominal tumor, right colectomy, and partial small bowel resection due to ischemia. The excised tumor weighed 68.1 lbs (Panel B). Pathological analysis confirmed negative margins. The patient recovered uneventfully and was discharged on postoperative day 8. Unfortunately, he refused adjuvant chemotherapy and died eight months later.

Discussion

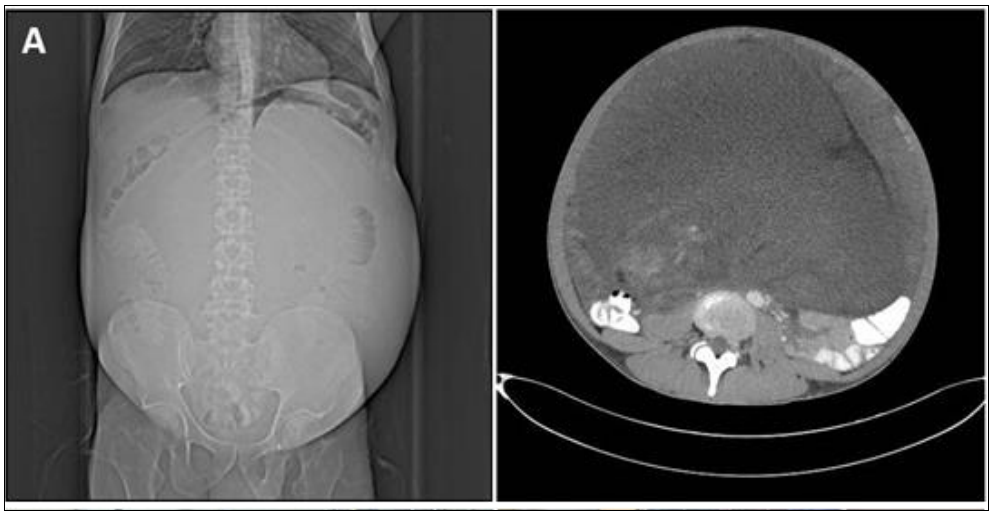
This case highlights the aggressive nature of myxoid liposarcoma and the challenges in management. The patient, a young Ashkenazi Jew with no family history of cancer, had a prior history of myxoid liposarcoma of the knee, suggesting metastatic progression.

The vague presenting symptoms—abdominal pain, fullness, and poor appetite—reflected mass effects but were nonspecific. His prior tumor history was the key clue that led to diagnosis.

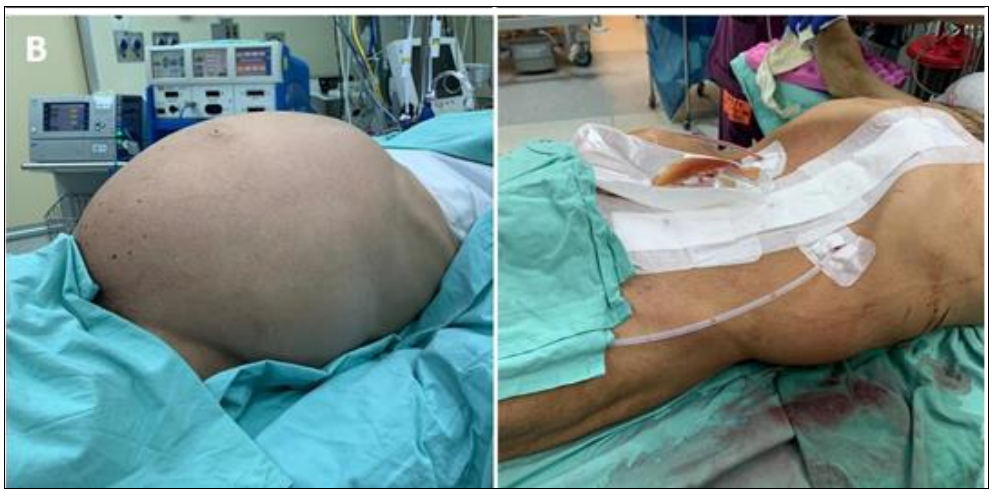
A critical factor in this patient's poor outcome was non-compliance. He had previously refused standard surgery for his primary tumor and was poorly compliant with chemotherapy. After resection of the retroperitoneal tumor, he again declined adjuvant therapy. This pattern of non-adherence, not based on cultural or ethical beliefs but likely due to fear of surgery, contributed to disease progression and shortened survival.

Conclusion

This case illustrates the diagnostic challenges and poor prognosis of retroperitoneal myxoid liposarcoma, particularly when patient adherence to treatment is inconsistent. Surgical resection remains the cornerstone of management, but its benefit depends heavily on patient cooperation. The tragic outcome in this case underscores the need for patient education, psychological support, and adherence promotion to improve survival. Future research should refine chemotherapy protocols and explore novel systemic therapies for metastatic myxoid liposarcoma.



Panel A: Abdominal X-ray (left) and axial CT scan (right) showing the abdominal mass (39.3 × 34.4 cm and 26.6 × 21.8 cm).



Panel B: Preoperative (left) and postoperative (right) photographs of patient's abdomen.

Panel C: Gross specimen of resected tumor (left) with small and large bowel segments (right).

Conflict of Interest
Not available.

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