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Right Groin Liposarcoma Presenting as Inguinoscrotal Mass with Incidental Severe Thrombocytopenia

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1. Abstract

We report the case of a 53-year-old male with a progressively enlarging right groin liposarcoma associated by severe thrombocytopenia requiring multidisciplinary care including medical and surgical oncology prior to definitive surgery. The patient underwent successful resection with right orchiectomy and hydrocelectomy without perioperative bleeding complications. This case highlights the importance of multidisciplinary management of complex soft tissue sarcomas in anatomically challenging regions and the need to address comorbid hematologic conditions to ensure safe surgical outcomes.

2. Introduction

Liposarcomas are malignant mesenchymal tumours and among the most common soft tissue sarcomas in adults. Inguinal canal or inguinoscrotal involvement is rare, often mimicking more common conditions such as inguinal hernia or hydrocele. Surgical resection with negative margins remains the cornerstone of treatment. We present a case of a large right groin liposarcoma requiring orchiectomy, complicated by severe thrombocytopenia managed with corticosteroids and intravenous immunoglobulin (IVIG).

3. Case Presentation

A 53-year-old male presented with a 3-month history of progressively increasing right groin swelling, associated with right testicular enlargement. The swelling became acutely painful the night prior to presentation. He denied systemic symptoms including fever, night sweats, weight loss, or bowel/urinary disturbances.

Initial imaging revealed a fat-containing mass within the right inguinal canal extending into the scrotum, with an associated hydrocele. Incidentally, his platelet count was found to be severely reduced (9,000/μL), along with iron-deficiency anaemia. Haematology was consulted, and the patient received a 4-day course of oral dexamethasone with partial improvement, followed by a second course of dexamethasone and IVIG, which restored his platelet counts to normal prior to surgery.

Further imaging with MRI pelvis and CT abdomen/pelvis demonstrated a 16.6 cm mass within the right inguinal canal and scrotum, without evidence of metastasis. Findings were suspicious for liposarcoma. After multidisciplinary team (MDT) discussion including surgical oncology and urology, upfront surgical resection was planned.

The patient underwent open resection of the right inguinal canal mass with right orchiectomy and hydrocelectomy. The procedure was uneventful with no intraoperative bleeding complications. Postoperatively, he remained stable, tolerated diet, voided spontaneously, ambulated, and had well-controlled pain. He was discharged the following day with scrotal support and outpatient follow-up arranged for pathology review and haematology reassessment of platelet counts.

Gross examination revealed a 16.5 cm mass involving the right inguinal canal, submitted en bloc with right orchiectomy. Histologic evaluation demonstrated a dedifferentiated liposarcoma. Immunohistochemistry showed tumour cell expression of MDM2, and fluorescence in situ hybridization (FISH) confirmed MDM2 gene amplification, supporting the diagnosis. The testis and spermatic cord were free of tumour involvement. All surgical resection margins were negative.

4. Discussion

Liposarcomas are among the most prevalent adult soft tissue sarcomas, predominantly arising in the retroperitoneum or proximal extremities. In contrast, the occurrence of liposarcomas within the inguinal canal or scrotum is exceptionally rare. A comprehensive literature review reveals that fewer than 300 cas-

es of spermatic cord liposarcoma have been documented globally. The right groin is an uncommon site for such neoplasms, with most cases involving the left side. This rarity underscores the diagnostic challenge posed by inguinoscrotal liposarcomas, which often present as slowly enlarging, painless masses that may be misinterpreted as inguinal hernias, hydroceles, or lipomas, leading to delays in accurate diagnosis and treatment.

This case series also highlights the importance of negative margins following a surgical resection, which sometimes requires a tissue diagnosis and biopsy that could potentially lead to tumour seeding. In this specific case, R0 resection was achieved, however, the risk of recurrence is not legible and reported to be 30% to 50% of patients experiencing relapse within three years of resection (Zou b.)

Our patient's presentation with a 16.5 cm dedifferentiated liposarcoma in the right inguinal canal and scrotum is notably rare (Figure1). Dedifferentiated liposarcoma is an aggressive subtype characterized by a well-differentiated liposarcoma component juxtaposed with a non-lipogenic, high-grade sarcoma component. The presence of MDM2 amplification, confirmed through immunohistochemistry and fluorescence in situ hybridization, further substantiates the diagnosis. The large tumour size and involvement of the scrotum are atypical for this subtype, which more commonly presents in the retroperitoneum.

Complicating the clinical scenario was the patient's severe thrombocytopenia, which necessitated preoperative hematologic optimization with corticosteroids and intravenous immunoglobulin (IVIG). This intervention successfully normalized platelet counts, allowing for safe surgical resection. The absence of perioperative bleeding complications highlights the effectiveness of this multidisciplinary approach. Post-operatively he did well. He followed up in office and got repeat imaging (Figure 2) showing R0 resection.

This case underscores the importance of considering liposarcoma in the differential diagnosis of inguinoscrotal masses, even in the right groin, and emphasizes the need for a coordinated multidisciplinary approach in managing such rare and complex presentations.

5. Conclusion

We report a rare case of inguinoscrotal liposarcoma managed with radical resection and orchiectomy, complicated by severe thrombocytopenia requiring preoperative hematologic optimization. This case underscores the role of MDT planning and individualized perioperative management in achieving favourable surgical outcomes in patients with complex comorbidities.

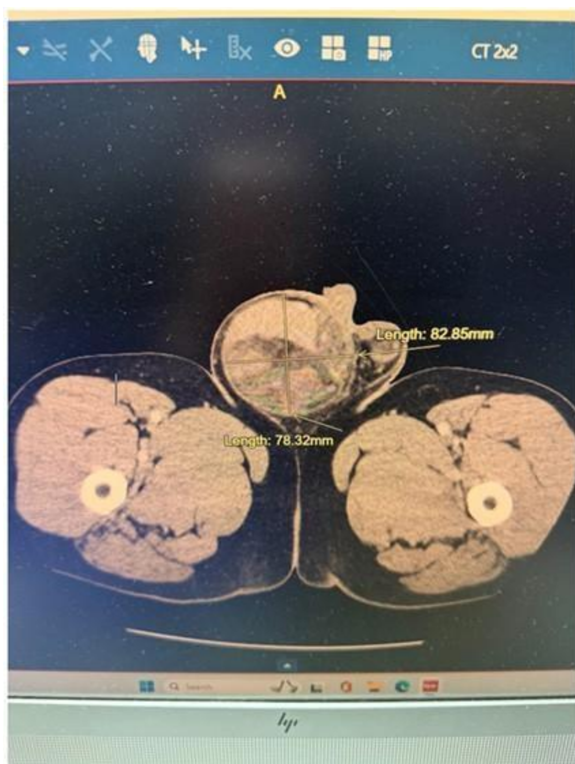

Figure 1: CT abdomen/pelvis showing a 16.5 dedifferentiated liposarcoma in the right inguinal canal extending into scrotum.

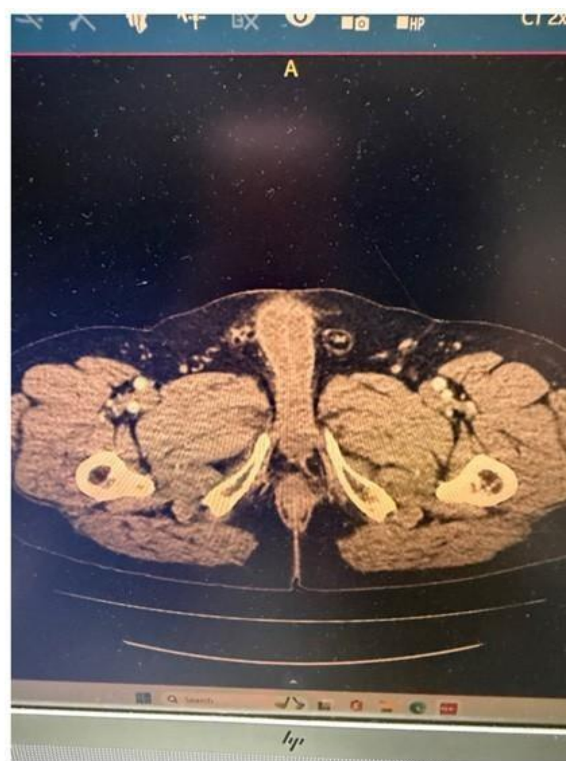

Figure 2: CT pelvis showing no residual tumour in the right inguinal canal.

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