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Giant Lipoma of The Cervico-Thoracic Junction in The Pediatric Population: A Case Report

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Abstract **Case Report**

Lipomas are benign, slow-growing tumors that develop from soft tissues. They are common tumors, but their occurrence in the cephalic region is significantly rarer. ***Objective:*** To report a case of a giant lipoma at the cervico-thoracic junction and describe the surgical approach used for its excision. ***Case presentation:*** A 15-year-old child presented with a progressively enlarging mass in the supraclavicular region. The patient was taken to the operating room for tumor excision. Histopathological examination confirmed the diagnosis of a large lipoma. Postoperative recovery was uneventful, and no recurrence was observed after 12 months of follow-up. ***Conclusion:*** Giant cervical lipomas are extremely rare. Their management relies exclusively on surgical excision, with definitive diagnosis based on histological examination of the resected specimen. Long-term postoperative surveillance is recommended due to the risk of recurrence.

Keywords: Giant Lipoma, Cervico-thoracic Junction, Surgical Excision, Histopathology.

INTRODUCTION

Lipomas are benign soft tissue tumors composed of mature adipose cells. They are very common; however, only 13% are located in the head and neck region [1,2], and less than 10% of these cases occur in the pediatric population [3]. Although typically asymptomatic, lipomas can grow to considerable sizes and pose clinical challenges, especially when located in anatomically complex or unusual regions such as the cervico-thoracic junction. A lipoma is considered "giant" when it exceeds 10 cm in size [4], accounting for less than 20% of all lipomas [5]. In this report, we present the case of a 15-year-old patient with a giant lipoma at the cervico-thoracic junction, highlighting the diagnostic considerations and therapeutic management options.

CLINICAL PRESENTATION

A 15-year-old male patient, with no significant medical history, presented for evaluation and management of a large mass that had appeared one year prior. The mass had been progressively increasing in size in the right supraclavicular fossa, without any associated symptoms such as pain or restricted shoulder mobility. Over time, the mass became increasingly prominent, eventually raising cosmetic concerns and causing some discomfort.

Physical examination revealed a firm, well-circumscribed, painless mass, mobile relative to the superficial plane but fixed to the deep plane, measuring approximately 12 cm in its longest axis.

Ultrasound imaging showed a well-defined, hypoechoic mass measuring 108 × 57 mm, suggestive of a lipomatous lesion. Due to its deep location and considerable size, a computed tomography (CT) scan was performed, revealing a large fatty-density soft tissue mass in the right supraclavicular area, extending into the soft tissues of the ipsilateral shoulder. The mass measured 108 × 123 × 94 mm and was associated with focal cortical bone lysis of the scapula. Given the lytic aspect, the possibility of a well-differentiated liposarcoma was considered.

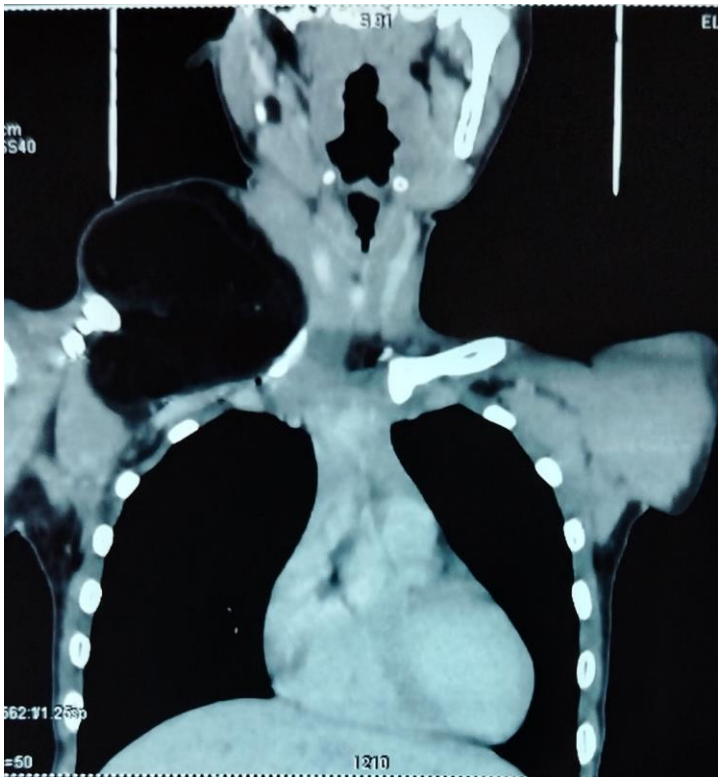

Figure 1: A large soft tissue lesion in the right supraclavicular region, extending into the soft tissues of the ipsilateral shoulder and thorax, with fatty density, suggesting a lipoma

Surgical Management

Surgical excision was performed due to the size of the lipoma and the patient's aesthetic concerns. The approach consisted of an incision over the mass in the right supraclavicular fossa, revealing a large, well-encapsulated fatty mass that was tightly adherent to the scapula posteriorly.

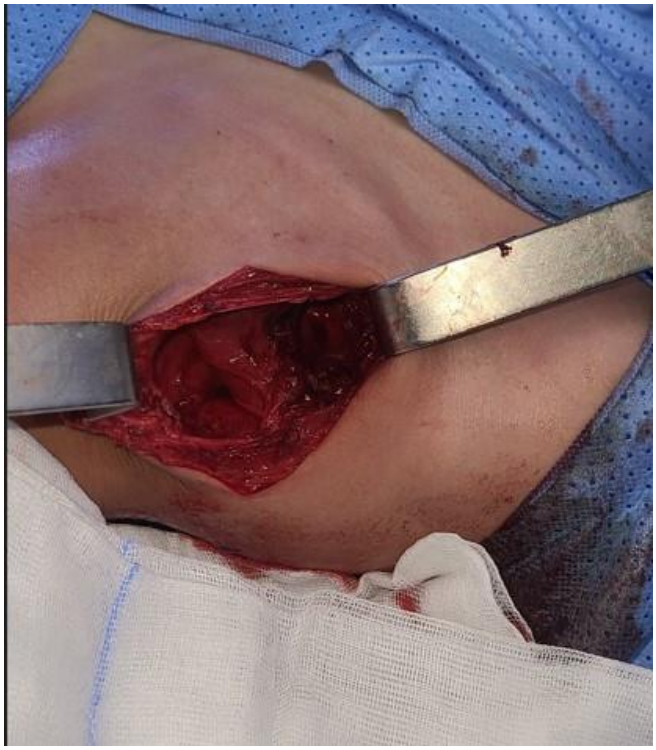

Figure 2: Image showing the surgical site after excision of the tumor mass

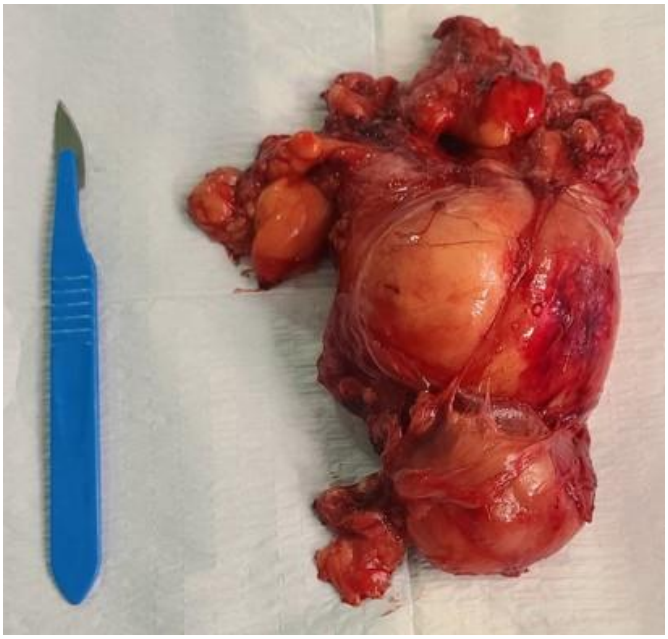

Figure 3: Image showing the excised surgical specimen

Histopathological Findings and Postoperative Course

Histopathological examination of the excised specimen confirmed a well-differentiated adipocytic tumor consistent with a lipoma. Additional testing using fluorescence in situ hybridization (FISH) was performed to definitively rule out a well-differentiated liposarcoma. The FISH analysis showed no amplification of the *MDM2* gene, supporting a cytogenetic profile not consistent with liposarcoma.

The postoperative course was uneventful. The patient recovered well from the surgical procedure, with satisfactory wound healing. No immediate or delayed complications were observed. The patient was followed up in outpatient consultations to monitor for any signs of recurrence or long-term complications.

DISCUSSION

Lipomas at the cervico-thoracic junction present a diagnostic challenge due to their deep location, close proximity to critical anatomical structures, and their uncommon presentation, which can raise concerns about malignant tumors such as liposarcomas. Radiological imaging, including ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI), plays a significant role in characterizing these lesions, aiding in the diagnostic approach and the formulation of a therapeutic strategy.

Histopathological examination remains the gold standard for definitive diagnosis. Microscopically, lipomas appear as well-circumscribed masses composed of mature adipocytes with vacuolated cytoplasm and peripheral nuclei (6).

Immunohistochemical analysis is a complementary examination used to distinguish between benign and malignant lipomatous tumors. Amplification of the *MDM2*, *CDK4*, and *HMGA2* genes is found in well-differentiated and undifferentiated liposarcomas, but not in benign lipomatous tumors (7,8).

Surgical excision remains the cornerstone of treatment for lipomas. The prognosis for these tumors is excellent. Long-term follow-up is essential to monitor for recurrence or malignant transformation, although the latter is extremely rare.

CONCLUSION

This clinical case highlights the importance of considering lipomas in the differential diagnosis of masses at the cervico-thoracic junction, particularly in children. Although these lesions are generally benign, accurate clinical and paraclinical evaluation is essential to exclude malignancy and guide therapeutic management.

Tumors located in deep tissues can gradually increase in size and cause various clinical symptoms by compressing surrounding tissues.

Surgical excision remains the treatment of choice for symptomatic or large lipomas, providing good local control and low recurrence rates.

Local recurrences can occur even after complete excision. Therefore, close and long-term follow-up is crucial for the optimal management of patients with lipomas, especially in the pediatric population.

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