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(CASE REPORT)

A Rare Lipoma: Infiltrating Deltoid Lipoma

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Abstract

Intramuscular lipomas are rare benign soft tissue tumors that originate within skeletal muscle fibers and account for a small fraction of all lipoma cases. Their infiltrative growth pattern can pose diagnostic challenges, particularly in differentiating them from well-differentiated liposarcomas. We report a case of a 42-year-old male who presented with a painless, gradually enlarging mass over the lateral aspect of the left shoulder. Magnetic resonance imaging (MRI) revealed a well-defined intramuscular fatty lesion within the deltoid muscle, measuring 30 × 19 mm, consistent with a lipomatous tumor. The patient underwent complete surgical excision of the mass. Histopathological examination confirmed an infiltrating intramuscular lipoma composed of mature adipocytes without cellular atypia or malignancy. The postoperative recovery was uneventful, and no recurrence was observed during follow-up. This case highlights the importance of imaging and histological evaluation in distinguishing benign infiltrating lipomas from low-grade liposarcomas. Complete surgical excision remains the treatment of choice to prevent recurrence and ensure definitive diagnosis.

Keywords: Intramuscular lipoma; Deltoid muscle; Infiltrating lipoma; Soft tissue tumor; Surgical excision

1. Introduction

Lipomas and their variants constitute the most common benign soft tissue tumors, accounting for approximately 16% of all cases. Most lipomas are subcutaneous and rarely involve the muscle layer. We report an uncommon localization of a lipoma within the deltoid muscle.

2. Case Report

A 42-year-old male patient with no significant medical history presented with a swelling over the lateral aspect of his left shoulder evolving for six months, without systemic symptoms. Clinical examination revealed a firm, painless, mobile deltoid mass without inflammatory signs. Shoulder radiographs were normal. Magnetic resonance imaging (MRI) demonstrated an intradeltoid lipoma measuring 30 × 19 mm. The patient underwent surgical excision of the mass. Histological examination confirmed an intramuscular lipoma without malignant features. The postoperative course was uneventful, with no recurrence observed during follow-up.

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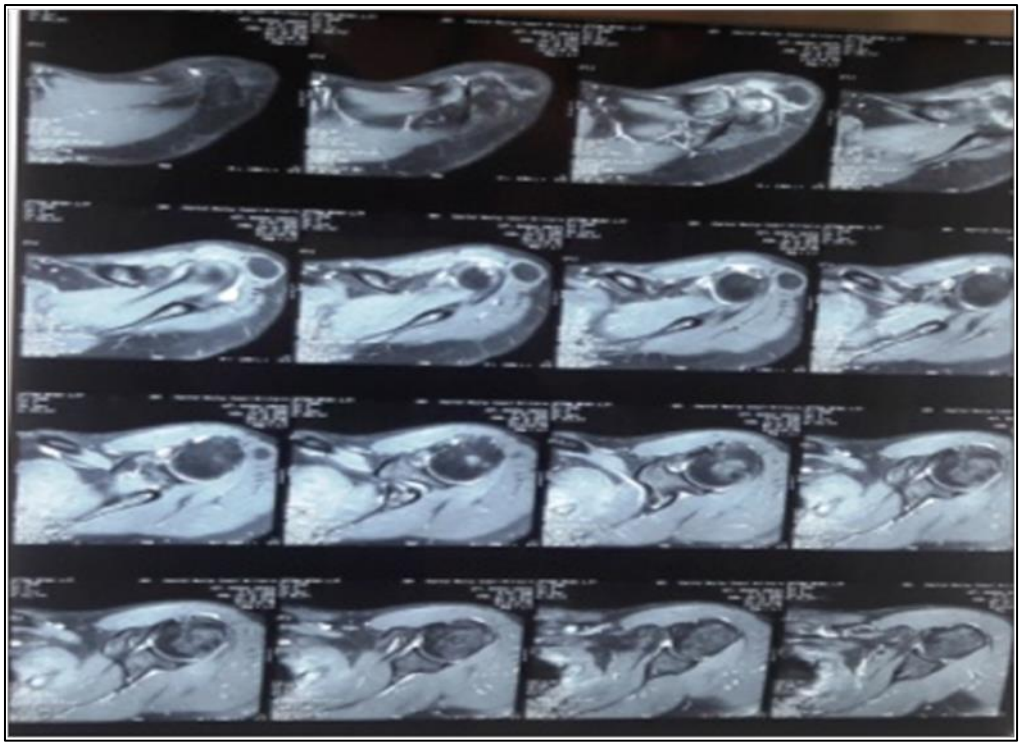

Figure 1 MRI showing intra-deltoid lipoma

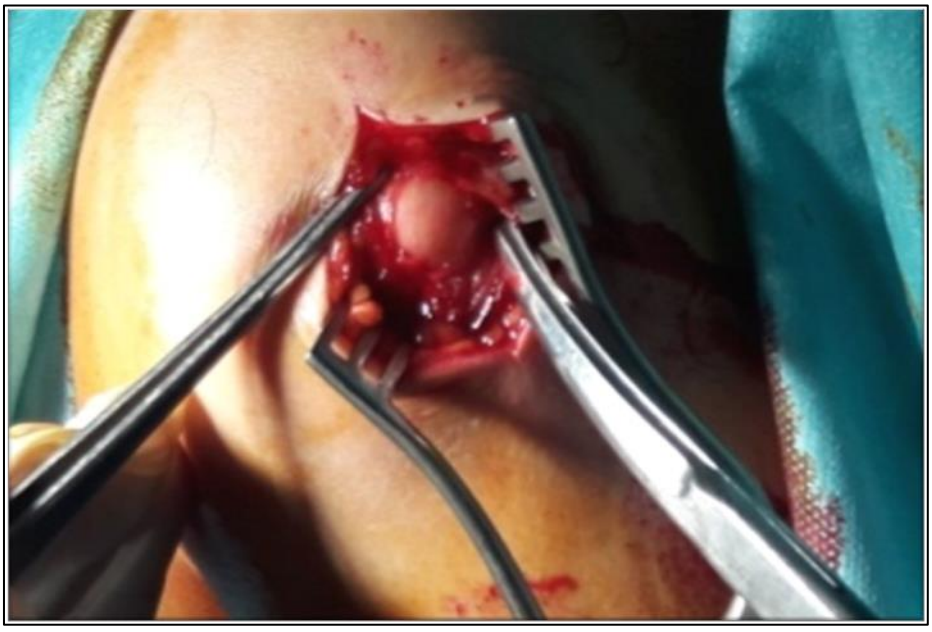

Figure 2 Intra-operative image showing intra-deltoid lipoma

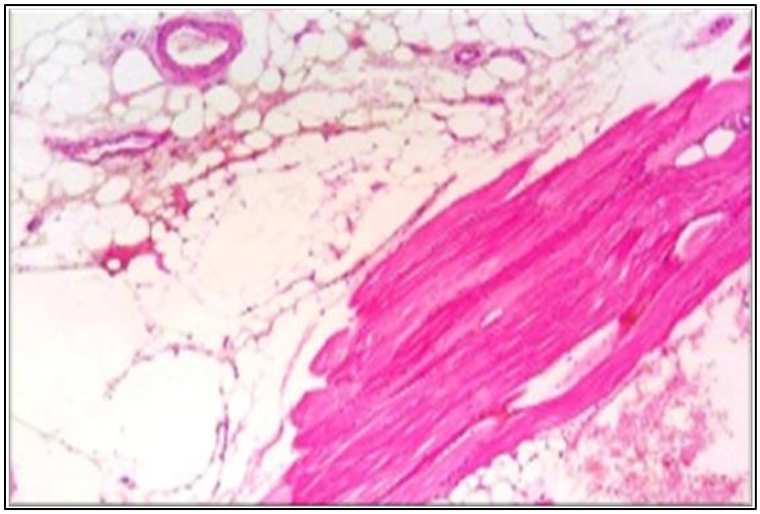

Figure 3 Histological section (at medium magnification) showing the absence of cytonuclear atypia in the tumor cells

3. Discussion

Deep lipomas of the limbs are rare compared to those located in axial regions. They are typically found near long bones and proximal limb segments. Our case is noteworthy because of its infrequent deltoid localization, representing only 2–18% of lipoma cases in published series.

An infiltrating intramuscular lipoma is composed of mature adipocytes that irregularly invade muscle fibers, replacing them in several areas. The main differential diagnosis is a well-differentiated liposarcoma. Distinguishing between these entities is crucial, as the presence of cellular atypia supports malignancy. Histopathological analysis must assess the infiltrative nature and surgical margins to evaluate the risk of local recurrence.

4. Conclusion

Deep-seated shoulder lipomas are rare. Histopathological evaluation is essential to differentiate them from low-grade liposarcomas. Therefore, surgical excision is recommended in cases of diagnostic uncertainty after imaging studies such as ultrasound or MRI.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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