Case Report

Lipoma Masquerading as Soft Tissue Sarcoma: A Rare Case Report

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DOI
10.21276/apalm.3634

Article History
Received: 03-07-2025
Revised: 15-08-2025
Accepted: 13-09-2025
Published: 29-10-2025

How to cite this article
Bhartiya R, Mehra P, Bariyar NK. Lipoma Masquerading as Soft Tissue Sarcoma: A Rare Case Report. Ann Pathol Lab Med. 2025;12(10):C176-C179.

Abstract

Giant lipomas of the head and neck are rare benign tumors that can mimic soft tissue sarcomas. We report the case of a 38-year-old male who presented with a large 25 × 18 cm posterior neck mass associated with sinus and intermittent low-grade fever for ten days. Routine laboratory tests were normal. Ultrasonography showed a well-defined hypoechoic subcutaneous lesion without cystic areas or calcifications. FNAC demonstrated mature fat cells in strands of fibrous stroma, compatible with a lipoma. A contrast-enhanced CT scan showed no underlying bone or spinal involvement. The mass was surgically excised, and histopathology confirmed the benign diagnosis. No recurrence occurred on follow-up. This case underscores the importance of integrating cytology, imaging, and histopathology to differentiate giant lipomas from malignant tumors and guide clinical decision-making in such rare presentations.

Keywords: Lipoma; Liposarcoma; Subcutaneous; Fine-Needle Aspiration

Introduction

Lipomas are benign growths of adipose tissue that typically develop slowly and rarely cause symptoms [1, 2]. They can arise in any part of the body, but the head and neck location is rare [3]. Although most lipomas present as solitary lesions smaller than 5 cm in diameter, giant lipomas can exceed 10 cm. They are of clinical concern due to the risk of ulceration, sinus formation, and secondary bacterial infection and may occasionally be misdiagnosed as malignant tumors. We present a case of a giant posterior neck lipoma in a 38-year-old man and discuss the diagnosis, clinical course, and surgical treatment.

Case Report

A 38-year-old male patient presented with a mass on the back of his neck. The mass had been present for nine years and had grown slowly over time. The lesion gradually enlarged from its original size to 25 × 18 cm [Figure 1].

Three months prior to presentation, a sinus appeared at the apex of the mass, with continuous purulent discharge over the preceding 10 days. This was accompanied by intermittent low-grade fever. Neurological examination showed no deficits, and there was no lymph node enlargement. Laboratory investigations showed a white blood cell count of 10,500/μL and

Figure 1: Clinical photograph showing the giant swelling at the posterior neck.

hemoglobin of 13.8 g/dL, and the erythrocyte sedimentation rate and C-reactive protein levels were within normal ranges. A lateral neck radiograph revealed a soft tissue shadow without evidence of bony involvement. Ultrasonography revealed a well-circumscribed, hypoechoic lesion with minimal peripheral vascularity in the subcutaneous tissue [Figure 2].

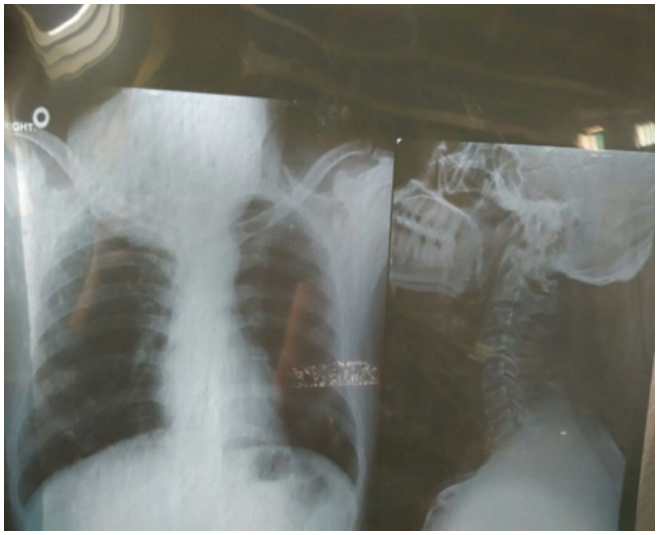

Figure 2: X-ray demonstrating soft tissue shadow without bony involvement.

There was no evidence of cystic areas or calcifications. The contrast-enhanced CT showed a large subcutaneous mass of $25 \times 18 \times 8$ cm, with no continuity into the spinal canal. Fine-needle aspiration cytology (FNAC) was performed at multiple sites using a 22-gauge needle. The smears revealed mature adipocytes interspersed in fibrous tissue yielding a benign fibro-lipoma [Figure 3].

Pus smears were negative for acid-fast bacilli. The mass was excised, and histopathological analysis confirmed it to be mature adipose tissue with no atypia [Figure 4].

Postoperative recovery was uneventful, and no recurrence was observed during follow-up. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Discussion

Lipomas are the most common benign soft tissue neoplasms, accounting for approximately 16% of cases [1, 2]. However, only 13% occur in the head and neck region, making this location relatively uncommon [3]. Giant lipomas, i.e., lesions with a diameter larger than 10 cm or a weight of more than 1 kg, constitute an even rarer group, with the posterior cervical site being especially rare [4, 5]. The etiology of giant lipoma is still not fully known. Although the majority of lipomas occur spontaneously, trauma has been considered as a possible inciting factor by causing fibrous septa damage with consequent

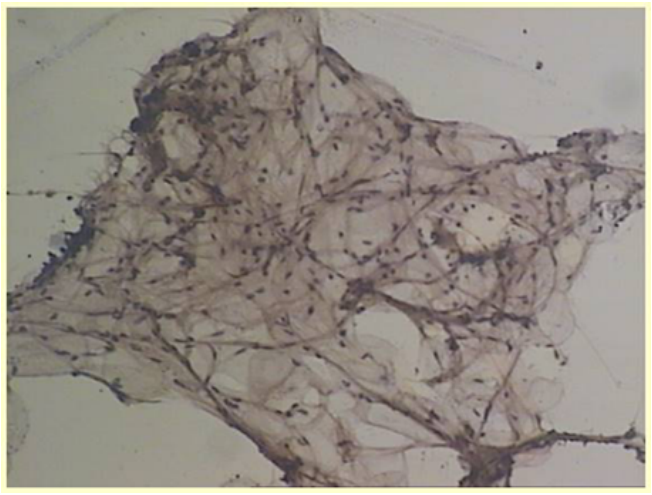

Figure 3: FNAC smear showing mature adipocytes within fibrous tissue strands (PAP stain, $\times 10$).

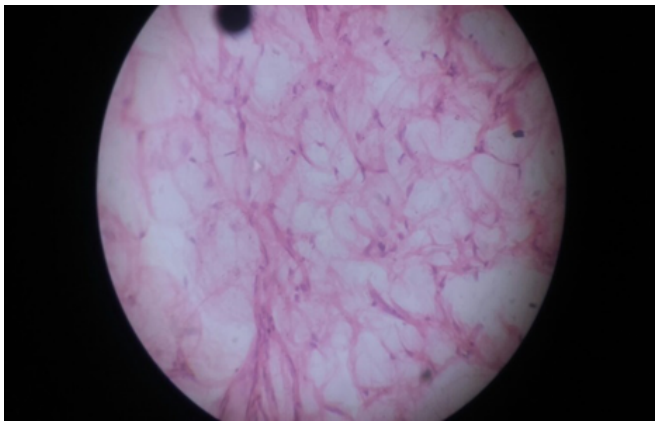

Figure 4: Histopathology section showing mature adipocytes without atypia (H&E stain, $\times 100$).

adipocyte hyperplasia [5]. In our case, the lesion was longstanding and slow-growing, consistent with the behavior of benign lesions, in contrast to the rapid growth typically associated with malignant tumors. The secondary complications, such as sinus tract formation and infection, likely resulted from mechanical trauma and local irritation secondary to the size and anatomic location of the mass.

Diagnostic distinction between giant lipomas and liposarcomas continues to be clinically difficult, with giant lipomas presenting symptomatically mimicking well-differentiated liposarcomas. Major distinguishing characteristics suggesting malignancy are increased growth ($>$ 2 cm/year), inhomogeneous echotexture on scans, irregular thick septa, calcifications, and deep fascial invasion [7, **?**]. Our case presented with a number of reassuring factors: slow growth for a long time, homogeneously hypoechoic ultrasound appearance, well-defined borders, and subcutaneous location without deep extension. FNAC results of mature adipocytes without cell atypia, greater mitotic activity, or pleomorphism were highly suggestive of a benign diagnosis [5, 6]. The diagnostic strategy for giant cervical masses includes clinical examination, imaging, and tissue sampling. Although MRI is superior for soft tissue characterization and can better define fascial plane involvement, CT scanning remains useful to assess bony involvement and surgical approach [4]. FNAC, although subject to sampling variation, provides a minimally invasive first tissue diagnosis and may direct further management decisions. In our situation, concordance of clinical presentation, imaging features, and cytological results was enough to give us the confidence to go ahead and operate with surgical excision.

Complete surgical excision is both curative and diagnostic for giant lipomas [5, 6]. Surgical excision requires meticulous attention to anatomic relations, particularly in the cervical region where important neurovascular structures are closely situated. Incomplete removal can lead to recurrence, but this is uncommon in the presence of sufficient surgical margins. Histopathological diagnosis is still the gold standard for final diagnosis and is necessary to rule out uncommon malignant transformation, which occurs in fewer than 1% of lipomas but with much greater risk in large long-standing lesions [2, 8].

Earlier case reports of giant cervical lipomas have reported comparable presentations with complications such as ulceration, bleeding, and secondary infection [6, **?**]. These complications, although concerning clinically, do not necessarily point towards malignant transformation but are more a reflection of the mechanical impact of large benign masses. Early detection

and proper surgical intervention can avoid these complications and result in outstanding outcomes, as seen in our case with complete recovery and no recurrence on follow-up.

This case highlights the value of sustaining a methodical diagnostic strategy for giant cervical tumors with clinical suspicion balanced by proper imaging and biopsy. Giant lipomas are uncommon but warrant being part of the differential diagnosis of slowly growing posterior cervical masses, particularly when imaging and cytological findings are benign. Multidisciplinary assessment incorporating radiology, pathology, and surgery is the best way to manage and get the best outcome for the patient.

Conclusion

Although rare, giant cervical lipomas should be included in the differential diagnosis of large posterior neck masses. Integration of clinical, radiological, and cytological findings is crucial to exclude malignancy, and complete surgical excision remains the curative treatment. Fine-needle aspiration cytology, imaging, and histopathologic diagnostic study are essential to confirm the benign nature of the lesion and exclude malignancy. Total surgical resection is the definitive treatment and is generally curative despite complicating sinus and secondary infection.

Acknowledgements:

Nil

Funding:

Nil

Conflicts of Interest:

Nil

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