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Case Report

Surgery Section

Lipoma of the Bilateral Supraclavicular Region: A Case Report

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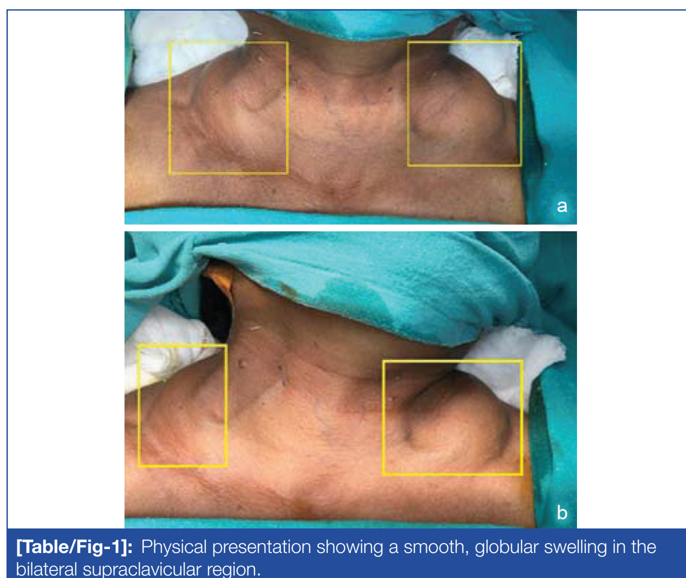
ABSTRACT

Lipomas occur in various parts of the body, with the extremities and trunk being common sites. It is rare to observe a lipoma bilaterally in the supraclavicular region. It is clinically significant because of its proximity to critical neurovascular structures. This is a case of a 60-year-old female who presented with a four-month history of swelling over the bilateral supraclavicular region, which gradually progressed to its current dimensions over this period. Physical examination revealed a smooth, globular swelling over the bilateral supraclavicular regions with normal skin texture. Radiological screening showed bilateral fatty masses suggestive of lipoma. The patient was managed by surgical excision. The histopathological analysis of the excised specimen confirmed the diagnosis of the lipoma. This case report highlights the importance of a multidisciplinary approach to managing bilateral lipomas in sensitive anatomical areas to prevent adverse outcomes.

Keywords: Bilateral fatty masses, Globular swelling, Neurological deficits, Neurovascular structures

CASE REPORT

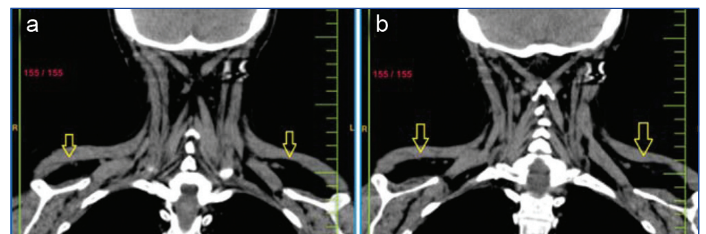
A 60-year-old female presented to the outpatient department with a four-month history of swelling over the bilateral supraclavicular region, which gradually progressed to its current dimensions over this period. The swelling was associated with intermittent, dull, aching pain during eating and while lying down. The patient had a history of hypertension. There were no observed neurological deficits. Physical examination showed a smooth globular swelling of 5.5×5.1×5.1 cm in the left supraclavicular region and a mass of 4.7×4.2×4.3 cm in the right supraclavicular region, with normal skin texture [Table/Fig-1]. The swelling was tender and mobile on palpation in both supraclavicular regions. There was no localised increase in temperature or any discharge from the swelling. Cervical lymphadenopathy was absent.



[Table/Fig-1]: Physical presentation showing a smooth, globular swelling in the bilateral supraclavicular region.

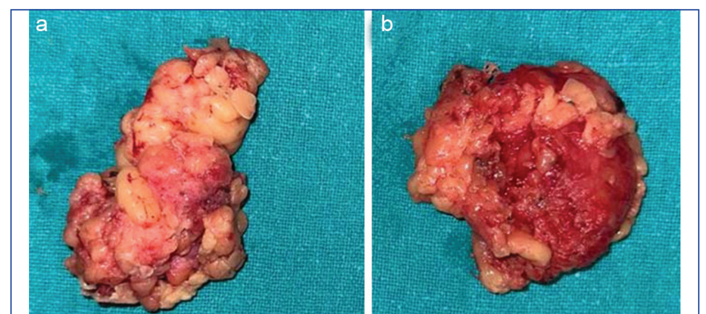
Contrast-Enhanced Computed Tomography (CECT) neck showed a mass of 5.7×5.3×5.3 cm in the left supraclavicular region and a mass of 4.9×4.6×4.4 cm in the right supraclavicular region, both of which were of fatty density [Table/Fig-2].

The case was discussed with a multidisciplinary team, and an excisional biopsy of the bilateral supraclavicular masses was recommended. The patient was managed by complete excision of the mass with mobilisation and preservation of the brachial plexus.



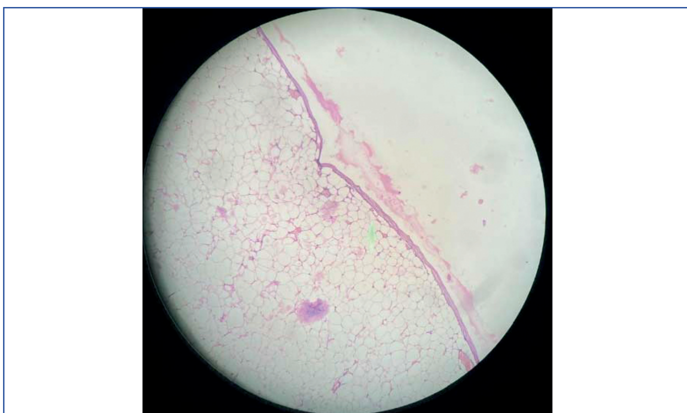
[Table/Fig-2]: CECT neck (a,b) coronal plane showing fat density lesions in the supraclavicular region bilaterally.

The patient was induced under general anaesthesia, placed in the supine position, and a horizontal incision was made over the bilateral swelling over the supraclavicular region. The incision was deepened in layers, the plane was identified, and lipomas were observed. The bilateral brachial plexus was preserved. Lipomas were dissected and excised, followed by a wash with betadine and saline. The drain was placed in the bilateral supraclavicular region. The skin was sutured with Ethilon 2.0 RC, and a sterile dressing was applied. The procedure was uneventful. Post-excision gross examination of both the swellings showed irregular, yellowish-white and fibro-fatty tissues [Table/Fig-3].



[Table/Fig-3]: The excised specimen: a) Right; b) Left, showing irregular, yellowish-white and fibro-fatty tissues.

Sections from both extracted tissue samples were sent for histopathological analysis, which showed mature adipocytes arranged in lobules, separated by thin septa, with eccentric nuclei and lacking mitotic features [Table/Fig-4]. These features confirmed the final diagnosis of lipoma. The patient made a full recovery with no neurological deficits and was discharged on the seventh postoperative day, with advice to attend one-, three- and six-month follow-ups. The patient was stable with no further complaints at the three-month follow-up.



[Table/Fig-4]: Showing mature adipocytes (green arrow) with cells arranged in lobules separated by thin fibrous septa, and eccentrically placed flattened nuclei without cellular atypia and mitotic activity (H&E, 40x).

DISCUSSION

Lipomas are the most common benign soft-tissue tumours, composed predominantly of mature adipocytes. These are slowly expanding adipose tumours with mesenchymal origins that can develop in any tissue or anatomical region where adipose cells are present commonly in the upper back, shoulders, and abdomen [1,2]. Lipomas in the supraclavicular region, particularly when bilateral, are relatively uncommon and may present unique diagnostic and therapeutic challenges. The supraclavicular region is anatomically complex, with proximity to vital structures such as the brachial plexus, subclavian vessels, and various lymphatic pathways [3,4]. Lipomas of the head and neck region have been reported more frequently in males than in females [5]. Although a male predominance has been described in the literature, the present case occurred in a 60-year-old female, representing an atypical gender presentation. Lipomas in this area can occasionally cause symptoms due to compression of these structures, such as respiratory symptoms from tracheal or laryngeal compression, or, rarely, compression of the subclavian vessels or brachial plexus, necessitating careful evaluation and management [6]. Though supraclavicular lipomas are initially observed as painless masses, over time some may become symptomatic and compress nerves, especially if they lack muscular covering. The use of backpacks and tight clothing are examples of external factors that can worsen symptoms [3].

The exact aetiopathogenesis of bilateral supraclavicular lipoma remains unclear; however, several proposed mechanisms include genetic predisposition, endocrine imbalance, trauma-induced adipocyte proliferation and abnormal differentiation of pre-adipocytes of mesenchymal origin. The bilateral occurrence may be attributed to symmetrical deposition of adipose tissue or developmental anomalies in the regional distribution of mesenchymal tissue [1,5].

Kabiri EH et al., reported a case of an extensive lipoma encompassing the anterior cervical and supraclavicular areas, underscoring the diagnostic challenges associated with deep lipoma adjacent to critical neurovascular elements [5]. Similarly, a case series by Graf A et al., described supraclavicular lipomas impinging on the brachial plexus, requiring meticulous surgical excision to avert neural damage [4].

Radiological assessment modalities, including ultrasound, Computed Tomography (CT) and Magnetic Resonance Imaging (MRI), play a crucial role in characterising the nature of these masses. Ultrasound can help determine the homogeneous and hyperechoic nature of lipomas. Additionally, CT and MRI provide detailed information on the extent and exact localisation relative to surrounding anatomical structures [2,3]. The supraclavicular region houses vital structures, including the brachial plexus, subclavian artery and vein, and lymphatic channels. Therefore, their location in the supraclavicular fossa necessitates a detailed clinical examination to rule out other differential diagnoses, such as lymphadenopathy, liposarcomas, angiolipomas, hibernomas, and epidermoid cysts. These can be differentiated using histopathological examination [1,7].

A variety of techniques have been employed for lipoma removal, including conventional excision, removal through a distant incision, liposuction-assisted techniques, endoscopic excision, and laser-based methods. While smaller lipomas (≤3 cm) are generally amenable to simple excision, larger lesions often require wider exposure, which may lead to more noticeable scarring. Debulking with liposuction prior to excision can reduce incision length and improve aesthetic outcomes [8]. Further studies and case reports are needed to enhance understanding and guide the management of such rare presentations.

CONCLUSION(S)

Bilateral supraclavicular lipomas are an uncommon entity that can pose diagnostic and therapeutic challenges due to their proximity to critical anatomical structures. This case highlights the importance of comprehensive diagnostic evaluation and careful surgical management.

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