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Case Report

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Elastofibroma: a rare entity

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ABSTRACT

Elastofibroma dorsi is a rare, benign soft-tissue pseudotumor that typically arises in the infrascapular region of elderly individuals. Due to its deep location and firm consistency, it may clinically and radiologically mimic malignant soft-tissue tumors, leading to diagnostic uncertainty. We report the case of a 57-year-old male who presented with a gradually enlarging, painful swelling in the right infrascapular region, associated with mechanical discomfort during shoulder movements. Clinical examination revealed a poorly defined, non-tender mass beneath the inferior border of the scapula. Imaging studies demonstrated characteristic findings, including a heterogeneous soft-tissue lesion with interspersed fatty streaks on computed tomography and a typical "striated" appearance on magnetic resonance imaging, with bilateral involvement. As the patient was symptomatic on the right side, surgical excision was performed. Histopathological examination confirmed the diagnosis of elastofibroma, showing fibrocollagenous tissue with abnormal elastic fibers and interspersed adipose tissue. The postoperative course was uneventful, with complete symptom resolution and no recurrence at six-month follow-up. Elastofibroma dorsi should be considered in the differential diagnosis of chronic infrascapular swellings, particularly in older patients with mechanical shoulder symptoms. Recognition of characteristic imaging features allows for accurate diagnosis and appropriate management. Surgical excision provides excellent symptomatic relief in selected cases.

Keywords: Elastofibroma dorsi, Benign musculoskeletal tumor, Pseudotumor

INTRODUCTION

In 1961, two Finnish worker Järvi and Saxen reported benign connective tissue tumor in elderly patients. The lesion is usually situated in lower subscapular region underneath the rhomboid and latissimus dorsi often fixed to ribs and intercoastal ligaments.[1]

Elastofibroma may occasionally arise in atypical locations, such as the tip of the elbow, adjacent to the ischial tuberosities, within the deltoid muscle, foot, inguinal region, orbits, stomach, greater omentum, and intraspinal spaces.

It is relatively prevalent among elderly women, with a mean age of onset around 70 years. Bilateral presentation is reported in approximately 10% of cases.[2]

CASE REPORT

A 57-year-old male, with insignificant past medical history, presented to the outpatient department with complaints of a gradually enlarging swelling over the right scapular region, first noticed approximately one year ago. The swelling was associated with dull, aching pain and mechanical discomfort, particularly aggravated by shoulder abduction and overhead movements. The patient had no history of any trauma, Kochs symptoms such as fever, weight loss, or night sweats, and had no similar lesions elsewhere with no similar swelling in past.

On physical examination, there was a diffuse, non-tender prominence localized to the inferior aspect of the right scapula, measuring approximately 8×6 cm. On palpation, the mass was soft to firm in consistency, poorly defined, non-mobile, and non-tender, without overlying skin

changes, warmth, or signs of inflammation. The right shoulder joint had a full range of motion, although mild discomfort was elicited at terminal overhead abduction beyond 120 degrees. Neurovascular status of both upper limbs was intact. Routine blood investigations were within normal limits.

Plain radiography with anteroposterior and lateral scapular views showed no evidence of osseous involvement, cortical irregularity, or bony destruction.

Computed tomography (CT) scan of the chest revealed a soft tissue lesion with ill-defined borders and internal fatty streaks in the bilateral subscapular region, deep to the serratus anterior and latissimus dorsi muscles, likely attached to the posterior chest wall, measuring 4 cm in thickness on the right side and 1.4 cm on the left.

Magnetic resonance imaging (MRI) demonstrated hypointense lesions with intervening fatty streaks along the bilateral posterolateral chest wall, measuring 102×42×90 mm on the right and 55×27×72 mm on the left. T2-weighted sequences showed the characteristic "striation" or "checkerboard" pattern typical of elastofibroma dorsi, with no evidence of pleural invasion or bony involvement. The differential diagnosis includes elastofibroma dorsi, lipoma, soft tissue sarcoma such as liposarcoma, desmoid-type fibromatosis, and inflammatory pseudotumor.

Patient had symptoms on right side hence patient was managed with excision of the tumor of right infrascapular region with posteroloateral approach to infrascapular region) (Figure 1).

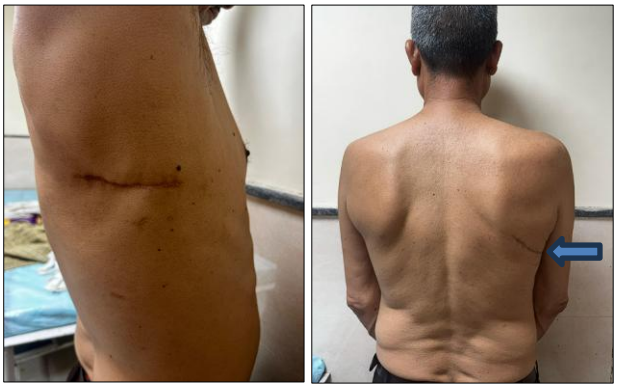

Figure 1: Postoperative status of patient showing operative scar (posterolateral).

Histopathological examination

Macroscopically, the resected specimen appeared fibrofatty soft tissue, on cut section grey white to grey yellow appearance of fatty tissue.

Microscopically, predominant fibrocollgenous tissue containing a large number of abnormal elastic fibres mixed with variable amount of adipose tissue and small blood vessel, the elastic fibres are thick deeply eosinophilic, fragmented into linear arranged globular or serrated disc-like structure (beads of string appearance), consistent with a diagnosis of elastofibroma.

No features suggestive of malignancy were identified (Figure 2).

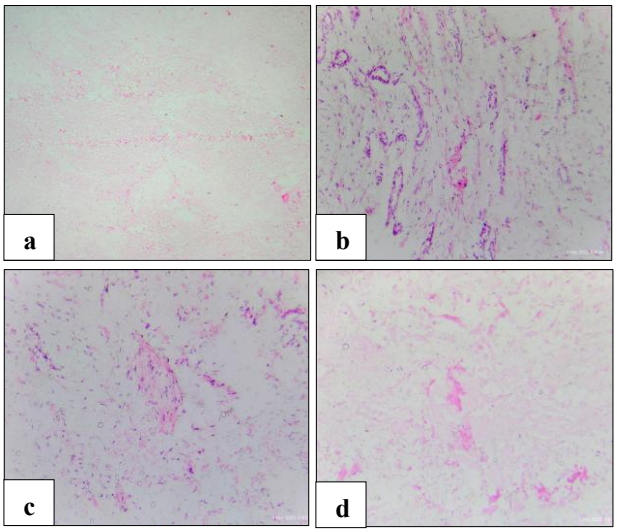

Figure 2: Histopathological results (a) low power view of lesion with abnormal elastic fibres, (b) elastic fibres with bland spindle cells and blood vessels, (c) elastic fibres with bland spindle cells, and (d) abnormal elastic fibres.

Postoperative course

The patient's postoperative recovery was uneventful. The patient reported complete resolution of preoperative symptoms. Follow-up evaluations at six months revealed no evidence of recurrence on clinical examination or imaging.

DISCUSSION

Elastofibroma dorsi is a rare, benign, slow-growing soft-tissue lesion characteristically located in the infrascapular region, deep to the serratus anterior and latissimus dorsi muscles. Elastofibroma is now recognized as a distinct benign entity in the WHO classification of soft-tissue tumors.[3] ED predominantly affects older adults, usually beyond the fifth decade, with a marked female predominance, and is frequently bilateral.[4]

Histologically, elastofibroma is composed of a mixture of dense collagen bundles, adipose tissue, and abnormal elastic fibers.[3] The elastic fibers are coarse, fragmented, and often described as having a beaded or globular appearance, which is considered pathognomonic and aids in differentiating ED from other soft-tissue tumors.[4] These findings support its benign and non-neoplastic nature.

Clinically, many patients remain asymptomatic, and lesions are often detected incidentally on imaging performed for unrelated reasons.[3] Symptomatic patients may present with periscapular swelling, discomfort, snapping or clicking sensations, stiffness, or mild pain exacerbated by shoulder movement.[5] Due to its deep location and firm consistency, ED may mimic a malignant soft-tissue tumor, leading to diagnostic confusion.

MRI is the imaging modality of choice, typically demonstrating a poorly circumscribed, heterogeneous mass with alternating fibrous and fatty streaks, producing a characteristic layered or "striped" appearance.[3] In the appropriate clinical setting, these imaging features may be sufficiently diagnostic, obviating the need for biopsy.[5]

The etiopathogenesis of ED remains uncertain. Proposed mechanisms include repetitive mechanical friction or microtrauma between the scapula and thoracic wall leading to reactive fibroelastic proliferation, as well as possible genetic predisposition or abnormalities in elastin metabolism. The frequent bilateral occurrence and familial clustering reported in endemic regions further support a multifactorial origin.[4]

Management is generally conservative for asymptomatic lesions. Marginal surgical excision is recommended for symptomatic cases, large lesions, or when diagnostic uncertainty exists, with most patients experiencing significant symptom relief.[5] Recurrence is exceedingly rare, and postoperative complications such as seroma or hematoma are usually minor and manageable.[5]

CONCLUSION

Elastofibroma dorsi should be included in the differential diagnosis of chronic scapular swellings, particularly in elderly patients presenting with mechanical shoulder symptoms. Generally, these pseudotumors are less aggressive and presents in insidious fashion. A heightened clinical suspicion, corroborated by characteristic MRI findings, facilitates presumptive diagnosis and prevents unnecessary extensive investigations or radical surgery. Histopathologic examination is the basis of confirmative diagnosis. Symptomatic lesions respond well to surgical excision, with excellent postoperative functional recovery.

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