

# Musculoskeletal

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An active, 55- years-old right-handed lady presented with a lump and prominence of the left scapula for the last two years. She also complained of pain in the left shoulder region on lifting her left arm. Physical examination revealed a mass on the back of the chest wall, deep to the medial border of the scapula, near the inferior angle, which became prominent on abduction of the left arm. The oval-shaped soft tissue mass was soft to firm in consistency and was adherent to the chest wall. There were no other masses present anywhere else on her body. All routine hematological parameters and the frontal chest radiograph were normal. The lady then underwent a contrast enhanced CT scan of the thorax [Figures 1-3].

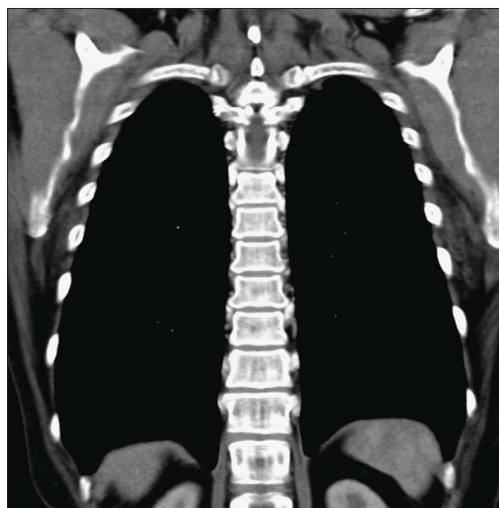
## What is your diagnosis ?



**Figure 2:** Axial contrast-enhanced CT scan at the same level



**Figure 1:** Axial non-contrast CT scan.



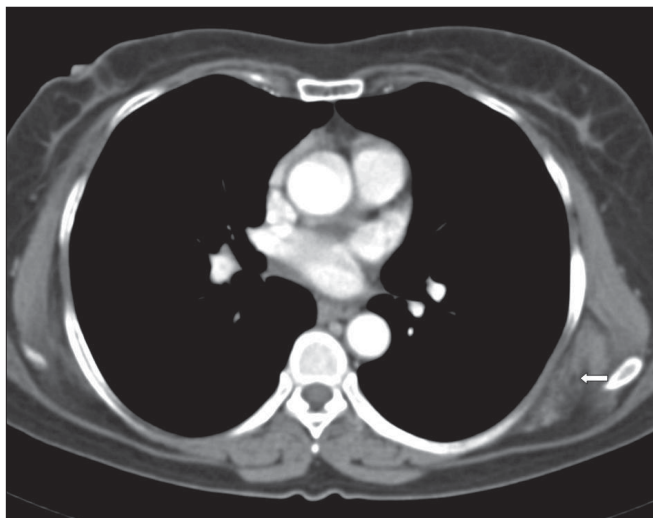
**Figure 3:** Coronal multiplanar reconstruction

## Diagnosis: Elastofibroma

Axial non-contrast CT scan of the patient revealed an oval-shaped, unencapsulated soft tissue density mass lesion with interspersed strands of fat attenuation [Figure 4]. The lesion was situated posterolaterally on the left side, between the thoracic wall and the left serratus anterior muscle. The

serratus anterior was displaced laterally, but the ribs and overlying muscles were intact. The lesion showed minimal homogeneous contrast enhancement. The characteristic periscapular location and specific imaging appearance on CT led to the diagnosis of elastofibroma.

Elastofibromas are slowly growing benign tumors of soft



**Figures 4:** Axial non-contrast CT scan through the lesion showing an oval-shaped, unencapsulated soft tissue density mass lesion with interspersed strands of fat attenuation (arrow).

tissue origin and in 99% of the cases are located in the inferior subscapular region between the scapula and the thoracic wall; they consist of fragmented and enlarged elastic fibers embedded in collagenous matrix that often occur bilaterally.<sup>[1]</sup> They usually occur in active subjects above the age of 50 with a male:female ratio of 1:5.<sup>[2]</sup> Of those in the subscapular region approximately 10% are bilateral.<sup>[3]</sup> The cause and pathogenesis are unclear, but it is suspected that subclinical micro-trauma may lead to reactive hyperplasia of elastic fibers with consequently increased production of fibrous tissue. Clinically, over half the subjects are asymptomatic and may present with a painless swelling; approximately one fourth present with a clicking sensation when the arm is moved, while fewer than 10% present with pain.<sup>[4]</sup> It is a rare non-encapsulated benign tumor characterized by the proliferation of elastin fibres in a stroma of collagenous and fatty connective tissue.

Plain radiographs may be normal or may show soft tissue density lesion in the periscapular region when the scapula is raised.<sup>[3]</sup> CT and MRI reveal a lenticular, unencapsulated, soft tissue mass with skeletal muscle attenuation / signal intensity interspersed with strands of fat attenuation. Small elastofibromas may be difficult to visualize on CT scans or MRIs, but they can be enhanced by the use of intravenous gadolinium. Its characteristic location (periscapular region) and specific imaging appearance on ultrasound images, CT scans and MRI facilitates the correct diagnosis. In cases where the patient is asymptomatic, excision is unnecessary. Malignant transformation is unknown. In symptomatic cases local excision is the best treatment.<sup>[5]</sup>

Although an uncommon lesion with a variable clinical presentation, the site and CT appearances of elastofibroma are characteristic. Awareness of the benign nature avoids unnecessary surgery and reassures a symptomatic patient.

## References

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