

# DIAGNOSE THIS

## A 70 Year-Old Woman with a Chest Mass

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A 70 year-old woman presents with significant weight loss over a period of three months. No abnormalities were found on physical examination or routine laboratory investigations.

An unenhanced computed tomography (CT) scan of the chest showed a 6.4 x 2.0 x 5.0 cm soft tissue mass in the right lateral chest wall beneath the scapula, deep to serratus anterior and rhomboid major muscles; a similar, slightly smaller lesion was identified on the left (Figure 1). The lesions were ill-defined with scattered linear fatty attenuation. No bony abnormality or other significant findings were visualized.

### Choose the BEST answer:

- A. This lesion is likely a sarcoma, warranting immediate surgical intervention +/- chemotherapy
- B. This benign lesion is most commonly found bilaterally in elderly females
- C. This tumor is likely metastasis from a breast carcinoma
- D. A biopsy is essential to rule out malignancy
- E. Yearly follow-up CTs are important in this condition to monitor growth rates of the tumors

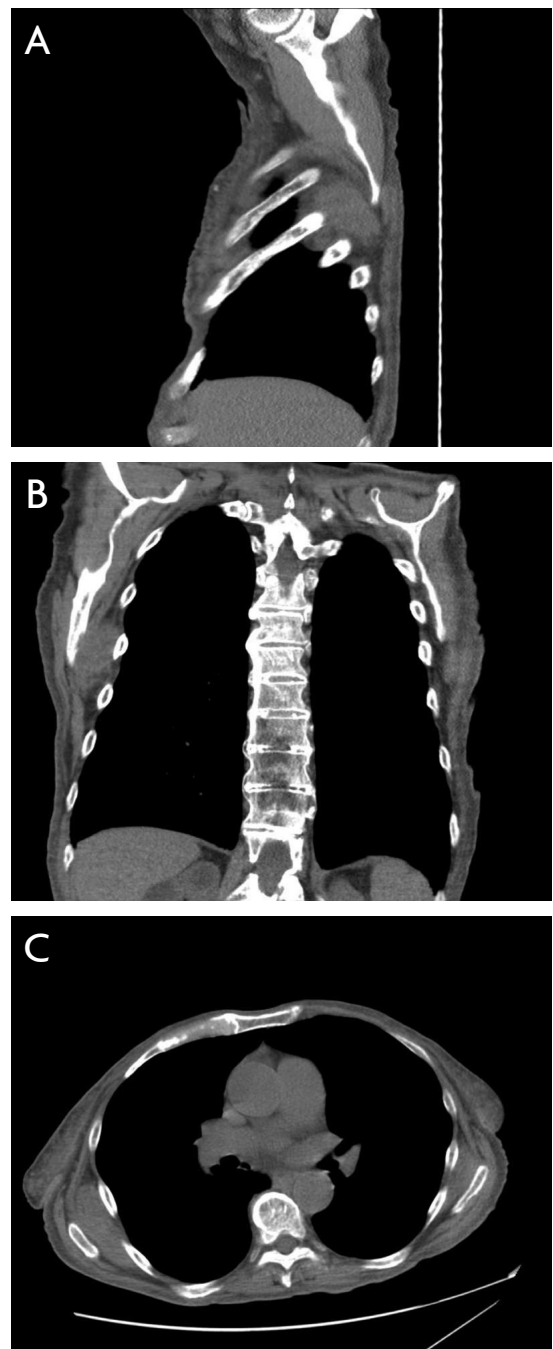


Figure 1. Unenhanced CT of the chest with sagittal (A), coronal (B), and transverse (C) views.

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**Diagnosis:**

Elastofibroma Dorsi

**Clinical Features**

Elastofibroma dorsi is a proliferative pseudotumour of unknown pathogenesis, and is often found incidentally in CT and magnetic resonance imaging (MRI) scans. Some hypothesize that it results from repetitive microtrauma and reactive hyperproliferation of fibroelastic tissue (Figure 2).<sup>1</sup> Usually located at the inferior scapular pole, outside the thoracic cage but deep to the muscles of the back, elastic fibromas are composed of collagen and abnormal elastic fibers

interspersed with mature adipocytes. Histopathology suggests that the elastic fibres result from a degeneration of collagen fibres.<sup>2</sup> It is asymptomatic in the majority of cases, and though relatively common, usually remains undetected and undiagnosed. When symptoms are present, they may include pain, joint clicking, impingement symptoms, and restricted range of motion of the scapula.<sup>3</sup> Masses are often bilateral, and may be palpable when the scapulae are elevated.



### Imaging Studies

The CT or MRI features of elastofibroma dorsi can be diagnostic.<sup>4</sup> Location, female gender, and bilateralism in the elderly are strongly supportive characteristics. The abnormality seen is a well- or poorly-defined soft tissue mass in the subscapular region, with attenuation similar to skeletal muscle. Characteristically, there are striations with fatty attenuation, parallel to the chest wall.

### Management

Further imaging and biopsy are not required when these classic findings are seen; however, pathology may be confirmed by fine needle aspiration. Surgical intervention of elastofibroma dorsi is not necessary unless the patient is symptomatic; marginal resection is usually curative. There has been no recorded case of malignant transformation.

### References

1. Brandser EA, Goree JC, El-Khoury GY. Elastofibroma dorsi: prevalence in an elderly patient population as revealed by CT. *AJR Am J Roentgenol* 1998 17:977-980.
2. Majo J, Gracia I, Doncel A, Valera M, Nunez A, Guix M. Elastofibroma dorsi as a cause of shoulder pain or snapping scapula. *Clin Orthop* 2001 388:200-204.
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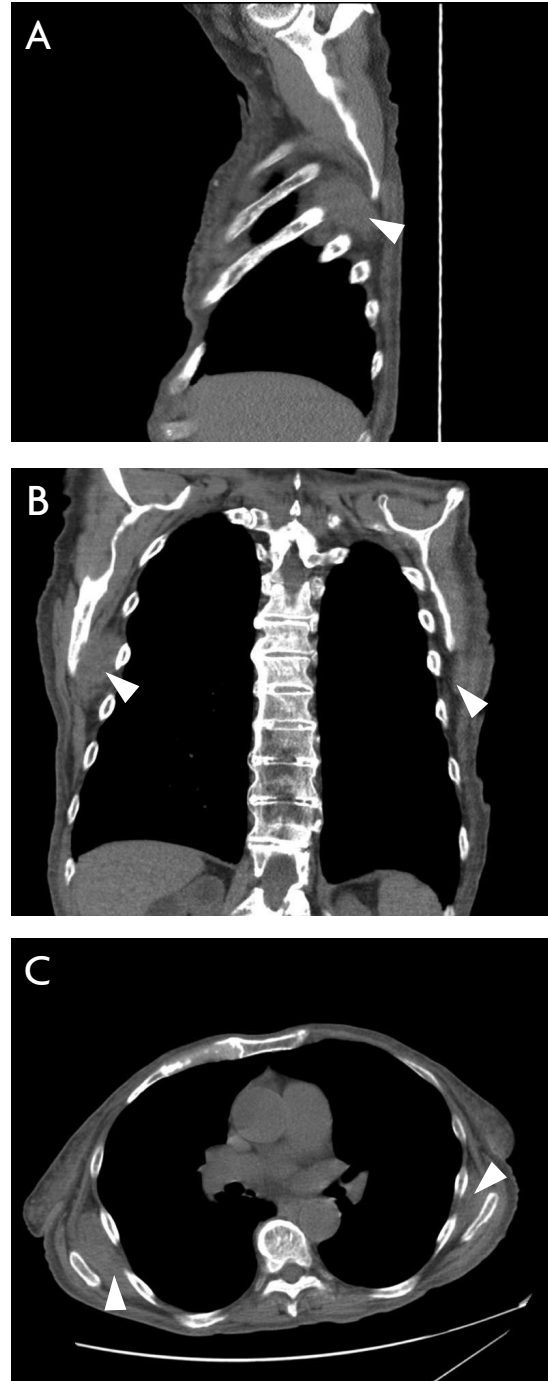


Figure 2. Unenhanced CT of the chest with sagittal (A), coronal (B), and transverse (C) views. Pathology indicated by arrowheads.