A 67-year-old woman, presented with recent pain (2 months) on the left scapular region radiating to the ipsilateral shoulder and back, aggravated by deep inspirations and harm movements. At physical examination no palpable mass was felt. She had a shoulder ultrasound and a chest X-ray, both of which were considered normal.

**Imaging Findings:**

An MRI T1, T2 and STIR sequence was performed, without contrast. No contrast enhanced imaging was acquired. A lesion with 33 mm of axial length, superficial to the inferior angle of the left scapula and deeper in relation to the latissimus dorsi, rhomboid and anterior serratus was found. This lesion had a lenticular shape, was uncapsulated and poorly circumscribed and had heterogeneous signal intensity, mainly with muscle signal intensity interspersed with fat attenuation (Fig. 1-3).

A lesion with the same appearance and smaller dimensions (axial length of 21 mm) was seen on the contralateral side (Fig. 4).

This study did not reveal any other important findings.

**Discussion:**

Elastofibroma Dorsi (ED) is a benign soft tissue lesion of the chest wall. It shouldn’t be considered a true neoplasm but instead a fibroelastic pseudotumour [1]. The pathogenesis of ED is still unclear, although repetitive microtrauma by friction between the scapula and the thoracic wall is considered to be the probable cause of the reactive hyperproliferation of fibroelastic tissue on the basis of this lesion [2]. They are almost all located in the infrascapular region between the thoracic wall, the serratus anterior and the latissimus dorsi (99%) [2].

Described in many articles as uncommon [3, 4, 5], some studies state the opposite, for example reporting an incidence as high as 24.4% in autopsy studies of women over 55 year [6]. A female predominance is also commonly reported [2, 6, 7, 8]. This lesion is also commonly bilateral. In a review of 300 cases published from 1980 to 2009, a ratio of 1:1 (bilateral and unilateral) was found [8].

The majority of EDs are small and clinically silent, therefore they are often incidentally discovered on imaging. It classically presents as an ill-defined mass at the inferior pole of the scapula with symptoms that include swelling, discomfort, snapping, stiffness and occasionally pain [5].

MRI is the most reliable noninvasive technique for diagnosis. ED usually presents as a well-defined nodular lesion with semilunar-shape located in the inferior margin of the scapula, adjacent to the thoracic wall. They mostly show signal intensity comparable to that of muscle, interspersed with adipose strands conditioning a heterogeneous
structure in T1 and T2-weighted images. On STIR-sequences the fatty tissue also showed low signal intensity, with a slightly higher intensity of the fibrous tissue. After administration of a contrast agent, normally faint, but also marked enhancement mimicking malignancy may be observed, a reason why administration of contrast is not recommended and neither necessary in typical cases. [2]

In incidental diagnosis of asymptomatic lesions there is no need for excision, as malignant transformation has never been described. Only in cases of discomfort, snapping or blocking scapula and pain, marginal resection is recommended [2].

It is of paramount importance to be aware of this relatively common and probably undiagnosed chest wall pseudotumour which in many cases, as in this one, is bilateral.

**Differential Diagnosis List:** Bilateral elastofibroma dorsi, Lipoma, Liposarcoma, Intramuscular myxoma, Chest wall metastasis

**Final Diagnosis:** Bilateral elastofibroma dorsi

**References:**


Description: Heterogeneous lesion deep in scapular region muscles and anterior to the inferior pole of the scapula. Signal intensity similar to muscle with some linear interlaced areas of signal intensity similar to fat (red arrow). Origin: Lopes P, Centro Hospitalar de São João, Department of Radiology; Porto - Portugal
Description: The findings were the same as in the previous figure (heterogeneous lesion with intensity signal similar to muscle tissue with some interlaced linear areas of signal intensity similar to fat). Origin: Lopes P, Centro Hospitalar de São João, Department of Radiology; Porto - Portugal
Figure 3

Description: The hyperintense linear areas seen in the previous sequences (red arrow), loose signal with fat-suppression techniques, indicating the presence of fat components within the lesion. Origin: Lopes P, Centro Hospitalar de São João, Department of Radiology; Porto - Portugal
Description: A similar lesion in the opposite side was found (green arrow). Origin: Lopes P, Centro Hospitalar de São João, Department of Radiology; Porto – Portugal