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Case Report

Bilateral and atypical localized elastofibroma dorsi in a patient with shoulder and back pain: A case report

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ABSTRACT

A 61-year-old woman presented with localized back pain at the left inferomedial border of the scapula and left shoulder pain. On physical examination, a soft tissue mass was detected on the left scapula. Magnetic resonance imaging showed a mass at the left suprascapular region and another mass in the left infrascapular region. A Tru-Cut biopsy of the lesion at the left suprascapular region was obtained due to atypical localization. Pathological examination was consistent with an elastofibroma. During wire-marking, another mass was detected at the right infrascapular region. Three mass lesions were excised on consecutive operations. During follow-up, the patient reported reduced shoulder and back pain.

Keywords: Back pain, elastofibroma dorsi, elastofibroma, shoulder pain, soft tissue tumor.

Elastofibroma dorsi (ED) is a rare, benign, slow-growing, solid soft tissue tumor which usually occurs at the subscapular region of the thoracic wall and has indistinguishable borders due to its non-encapsulated nature.[1] The lesion is defined as ED due to its characteristic sub- and infrascapular localization.[1,2] However, although not frequently, elastofibroma can be seen in other parts of the body. Other body sites where ED cases were reported include the lateral thorax wall, axilla, trochanter major, olecranon, foot, tricuspid valve, tuberositas ischii, inguinal region, stomach, sclera, orbita, and mediastinal region.[1,3-6]

Herein, we present an unusual case of bilateral ED due to its rarity and bilateral and atypical localization which can be easily overlooked.

CASE REPORT

A 61-year-old female presented with localized back pain at the left inferomedial border of the scapula and left shoulder pain which worsened within the past two months. The patient reported that she had no pain relief with previous physical therapy and medical treatments. On physical examination, a hard/soft tissue mass was detected on the left scapula. The mass was painful with movement and painless on palpation (Figure 1). She reported that the mass was there for two years and grew slowly. Routine laboratory investigations yielded normal results. An ultrasound imaging of the superficial tissue overlying the site of interest showed a hyperechogenic, heterogeneous

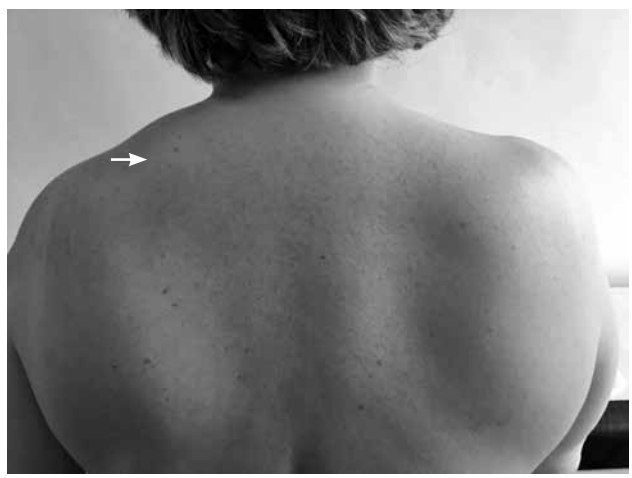

Figure 1. Elastofibroma dorsi at left suprascapular region.

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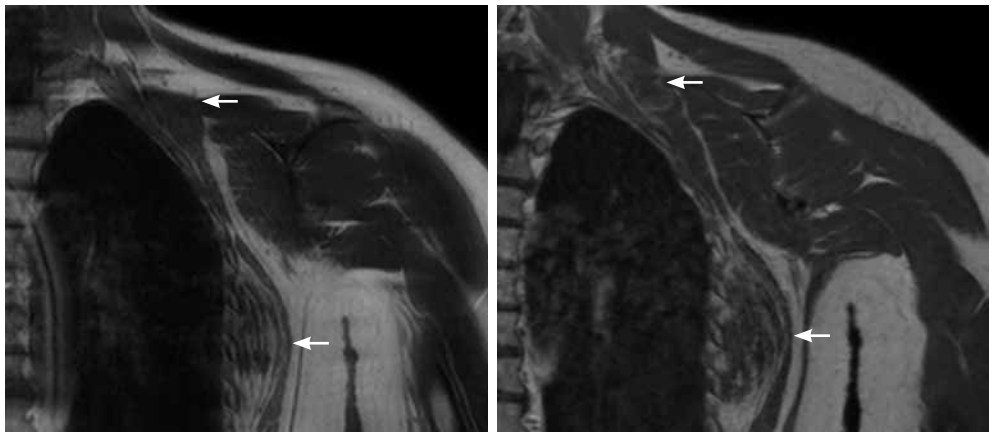

Figure 2. Both left suprascapular and left infrascapular lesions at coronal section on T1-weighted magnetic resonance imaging scans with or without contrast-enhancement.

mass lesion of approximately 5×2.5 mm at a depth of 2 cm from the surface. Magnetic resonance imaging (MRI) showed a mass of 6×3×6.5 cm with irregular borders at the left suprascapular region in close proximity to the latissimus dorsi which was often isointense to the muscles on T1- and T2-weighted sequences with occasionally hyperintense areas, and another soft tissue lesion of 7×2.5×7 cm with irregular borders was observed in the left infrascapular region between the serratus anterior and latissimus dorsi muscles with reduced T1- and T2-signals (Figures 2, 3). The radiological appearance of the lesion at the left infrascapular region was consistent with ED. A tru-cut biopsy of the soft tissue lesion in the left suprascapular region was obtained due to atypical localization. Pathological examination was consistent with elastofibroma. The patient was referred to the thoracic surgery department for surgical excision. A third ED mass was detected in the right infrascapular region of the patient through ultrasound during preoperative wire-marki ng. Thoracic computed tomography was performed for the same region. Three mass lesions were excised on consecutive operations. During follow-up at months after surgery, the patient reported reduced pain and she was able to perform daily activities of living without pain.

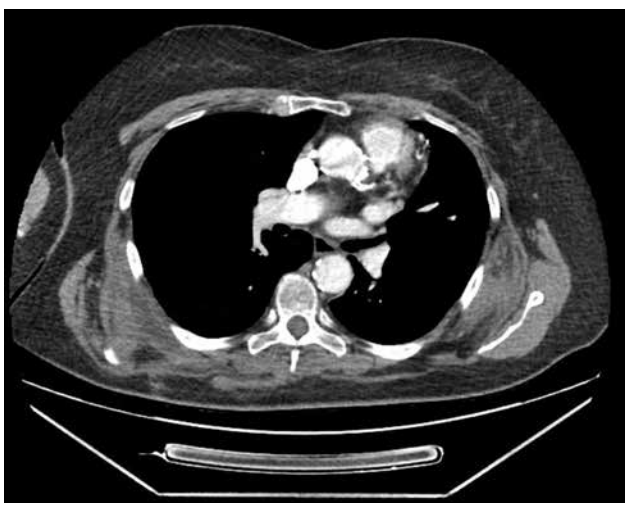

Figure 3. Both right and left infrascapular lesions on thoracic computed tomography.

DISCUSSION

Elastofibroma dorsi is an uncommon benign lesion which typically occurs in the sub- or infrascapular region.

To date, many arguments have been proposed in an attempt to explain the pathogenesis of ED. Järvi and Länsimies[7] suggested that ED results from recurrent minor traumas at the subscapular region by friction of the lower end of the scapula and the thoracic wall.[8,9] Other mechanisms for ED include reactive fibromatosis, degeneration due to vascular insufficiency, elastic degeneration, enzyme defects, and systemic involvement.[1,10,11] In their study, McComb et al.[12] observed an increased genetic instability on chromosome 1 by cytogenetic analysis of elastofibromas and, based on these clonal abnormalities, they suggested that the lesion might involve neoplastic process rather than a reactive one. There was no evidence to suggest genetic disposition in our case, and the patient was a housewife doing intensive housework. None of the aforementioned arguments can explain the exact pathogenesis of elastofibroma for reported cases which clinically

differ in localization or history. In addition, in our case, one of the lesions was located at the suprascapular region, whereas other two masses were located at the inferomedial border of scapula.

Half of the patients with ED are free from clinical symptoms.[10] Over time, the mass may manifest itself as back and shoulder pain and swelling in the back while reaching forward. Pain which spreads to the shoulder can lead to different diagnoses and treatments. Majó et al.[13] reported that, out of 10 patients, three with ED had a previous diagnosis of impingement syndrome with treatment failure and their complaints relieved only after surgical removal. Similarly, our patient presented with localized back pain and shoulder pain which did not respond to physical therapy with subsequent pain relief after surgery.

In ED, hematological and biochemical tests show no specific findings. Of imaging modalities, MRI is the primary tool.[14,15] Using MRI, Malghem et al.[15] reported that, while fibrotic tissue of the mass had similar signal intensity to the surrounding muscle tissues, fat tissues showed a higher signal intensity, and these findings were pathognomonic for the mass. Solivetti et al.[16] also reported that the use of ultrasonography for diagnostic purposes was an adequate and inexpensive method. Kransdorf et al.[17] reported that radiological evaluation by MRI or CT was consistent with histopathological evaluation. In the differential diagnosis, lipoma, hemangioma, metastatic or primary sarcoma, desmoid tumor, prominent subscapular bursa, neurofibroma, cicatricial fibroma, fibrous histiocytoma, fibromatosis, and fibrolipoma should be considered. Needle aspiration or incisional biopsy can be also performed to confirm the diagnosis; however, excisional biopsy should be preferred. In our case, we performed a tru-cut biopsy due to the atypical localization of the suprascapular mass.

In conclusion, ED is a rare entity which is associated with diagnostic challenges, since it may not produce any physical findings or ambiguous findings leading to misdiagnosis. Our patient presented with back and shoulder pain and a suprascapular soft tissue swelling at an atypical localization for ED. Second and third infrascapular lesions were detected incidentally by radiological investigations. We suggest that ED and other soft tissue tumors should be considered in chronic back pain. Also, in persistent shoulder pain, atypically localized soft tissue tumors should be considered in the differential diagnosis and further investigated radiologically.

Declaration of conflicting interests

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