

Elastofibroma Dorsi as a Cause of Back Pain: A Case Report

Bahadır Elitez¹, Ayhan Askin¹, Fethi Isnac¹, Umit Secil Demirdal¹, Ece Guvendi¹

ABSTRACT:

Elastofibroma dorsi as a cause of back pain: a case report

Objective: Elastofibroma dorsi (EFD) is a rare benign pseudotumor characteristically located at subscapular region. Although it is usually asymptomatic, it can present with swelling in the subscapular region, back pain and clicking with shoulder motion. In this case report we aimed to present a female patient with the diagnosis of bilateral elastofibroma dorsi.

Case Report: A 69-year-old woman consulted to our outpatient setting with back pain. Her complaints started 15 months ago. A computerized tomography scan was performed and bilateral ill-defined masses were detected in subscapular region. These masses were found consistent with EFD. The patient did not consent surgical excision. Therefore she was treated conservatively.

Conclusion: In clinical practice, a diagnosis can be made through careful examination and patients can be treated medically or by the means of physiotherapy modalities.

Keywords: Back pain, elastofibroma, physiotherapy

ÖZET:

Bir sırt ağrısı sebebi olarak elastofibroma dorsi: Olgu sunumu

Amaç: Elastofibroma dorsi (EFD) nadir görülen iyi huylu bir psödötümördür. Tipik olarak subskapular bölgede lokalizedir. Genellikle asemptomatik olduğu halde, subskapular bölgede şişkinlik, sırt ağrısı ve omuz hareketiyle meydana gelen ses semptomlarıyla da başlayabilir. Bu olgu sunumunda bilateral elastofibroma dorsi tanısı olan bir kadın hasta sunulmuştur.

Olgu Sunumu: 69 yaşında kadın hasta polikliniğimize sırt ağrısı ile başvurdu. Şikayetleri 15 ay önce başlamıştı. Yapılan bilgisayarlı tomografi tetkiki sonrası bilateral subskapular bölgede sınırları net olmayan kitle tespit edildi. Bu kitleler EFD ile uyumlu bulundu. Hasta cerrahi operasyona rıza göstermediği için konservatif tedavi uygulandı.

Sonuç: Klinik pratikte tanı dikkatli bir fizik muayene ile konulabilir ve hastaların şikayetleri medikal tedavi veya fizik tedavi modaliteleri ile tedavi edilebilir.

Anahtar kelimeler: Sırt ağrısı, elastofibroma, fizyoterapi

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¹Katip Celebi University, Faculty of Medicine, Department of Physical Medicine and Rehabilitation, Izmir - Turkey

Address reprint requests to / Yazışma Adresi: Ayhan Askin, Katip Celebi University, Faculty of Medicine, Department of Physical Medicine and Rehabilitation, Izmir - Turkey

Phone / Telefon: +90-232-244-4444/1637

E-mail / E-posta : ayhanaskin@hotmail.com

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INTRODUCTION

Elastofibroma dorsi (EFD) is a benign soft tissue pseudotumor that is typically located at subscapular region. While its etiology remains unclear, mechanical friction of scapula against the chest wall and genetic abnormalities have been considered as possible causes (1,2). It is a rare tumor mostly affecting female population and its prevalence

increases in the elderly (3). It is usually asymptomatic and can be detected incidentally by imaging techniques that are performed for other conditions. However, EFD can also present with swelling, back pain and clicking with the shoulder movement. The diagnosis EFD can be made by radiological imaging or histological studies. In this study we will present a case report of a female patient with the diagnosis of bilateral EFD.

CASE REPORT

A 69-year-old female patient consulted to our outpatient setting with upper back pain. Her complaints started approximately 15 months ago. The patient localized the pain between the scapulae and around lower thoracic vertebrae and described it as dull and ill-defined. The pain was exacerbated by shoulder and upper trunk movement. The pain was evaluated by Visual Analogue Scale (VAS) and scored 6 out of 10 by the patient. Recent history of trauma was absent. Regarding the quality, there were not any neuropathic or inflammatory aspects of pain. The patient had no history of chronic illnesses.

In physical examination, there was tenderness on bilateral subscapular regions upon palpation. There was no spinous process tenderness. No masses or lesions could be palpated or inspected on the back. Pain could be elicited while performing shoulder movement. Otherwise, shoulder and trunk range of motion (ROM) examination did not show any pathological findings.

X-ray radiographs of chest and thoracic vertebrae showing anteroposterior and lateral views were taken. Osteodegenerative changes were seen in thoracic vertebrae and probable height losses were suspected in vertebral bodies. Then, a computerized tomography (CT) scan of thorax was performed to further assess the tissue structures around the painful area and to make sure that height losses of vertebral bodies are present. Bilateral ill-defined masses were detected in subscapular region with a size of 6x3 cm on the right and 5x2 cm on the left (Figure-1). These masses were found consistent with elastofibroma dorsi.

The patient was informed about EFD and different treatment procedures were explained. She did not want to undergo a surgical operation, thus conservative approach was planned. The patient underwent conventional transcutaneous electrical nerve stimulation (TENS) therapy, 100 Hz, 20 minutes per day for 10 days. In addition, she was prescribed nonsteroidal anti-inflammatory drugs (NSAIDs) and exercises for shoulder and upper trunk regions. These exercises included active range of motion movements, stretching and strengthening.



Figure-1: Computerized Tomography scan of chest: Bilateral subscapular masses identified as elastofibroma dorsi can be seen.

She was evaluated again after the treatment process and told that the pain had responded to the treatment and diminished. She scored 2 out of 10 in VAS. Then, she was admitted for clinical follow-up.

DISCUSSION

Elastofibroma dorsi is an uncommon, benign, solid soft tissue pseudotumor which is usually located at the subscapular region between muscle groups of latissimus dorsi and serratus anterior. Its name derives from its containment of irregular elastin fibers in stroma (1). Two major predisposing factors have been proposed so far; one being mechanical and other being genetic. First, friction of scapula against the ribs due to continuous manual labour involving shoulder movement has been suggested as an underlying cause (1-3). Secondly, in a study researching genetic abnormalities in EFD cases, DNA copy number changes were observed in tumor tissue, mainly at chromosomal sites Xq12-q22 and 19 (2). Its prevalence was found as 1.66% in a study that assessed incidental detection of the condition by 18-fludeoxyglucose (FDG) – positron emission

tomography (PET)/CT scanning in 1751 patients (4). Females are more prone to EFD and it usually occurs in elderly people (3).

Patients with EFD are usually asymptomatic. If present, patients might suffer from swelling in subscapular region, pain, clicking sound with shoulder movements and shoulder stiffness. In physical examination, the tumor can be palpated around the inferior tip of scapula (1,5). The palpation can be performed more accurately while the patient flexes the arm anteriorly. While EFD is mostly located in its typical subscapular region, other sites of tumor occurrence have been reported (5). In our case, although masses in subscapular regions could not be palpated, other symptoms and signs such as pain with shoulder motion were present.

Ultrasonography (USG), CT, magnetic resonance imaging (MRI) and PET/CT are all of diagnostic value and EFD has a well-described image on all those modalities (6). Ultrasonography can detect the tumor in its typical subscapular location, usually as an inhomogeneous fasciculated mass. With CT, inhomogeneous fasciculated mass isodense to neighbouring muscle tissue and containing hypodense fat strands can be seen. Similarly, on MRI fat strands are hyperintense on isointense surface of fibroelastic tissue on both T1 and T2 sequences (7). Ultrasonography is a noninvasive and inexpensive technique that can reveal the tumor's characteristic fasciculated image. Computerized tomography (CT) and MRI can be reserved for undiagnostic USG, suspicion of malignancy and observation of adjacent bone and soft tissue structures that can also be the sources of pain. In our patient, CT scan was performed before USG to assess osseous structures in terms of degenerative or osteoporotic changes due to older age of patient. Since it successfully detected the tumor, further imaging was omitted.

The diagnosis can be verified by biopsy and histological study of specimen. In microscopic study, elongated and round-shaped elastin fibers, collagen fibers, fat tissue and fibroblasts can be seen (5,8).

Preoperative biopsy should only be performed when CT or MRI indicates possibility of a malignant tumor. Otherwise, malignant transformation of EFD has not been reported and preoperative histological study is unnecessary (8). Our patient did not undergo surgery, thus, histological diagnosis was absent in our case.

There are many medical conditions that could present as shoulder and upper back pain. These conditions are thoracic vertebral spondylosis, osteoporosis, trauma, herniated intervertebral disc, myofascial pain syndrome, fibromyalgia and rheumatological and infectious conditions. On the other hand, other tumoral conditions that could present in the subscapular region are lipoma, desmoid tumor and soft tissue sarcoma and metastasis. These tumors can be differentiated from EFD by the means of radiological findings because they do not show characteristic fasciculated pattern of EFD in MRI or CT (6).

The treatment of EFD is surgical excision of the tumor. Consensus regarding the decision and the timing of the surgery cannot be found in literature. However some surgical centers have proposed algorithms. According to those, if the patient is symptomatic, the tumor is larger than 5 cm and there is radiological appearance consistent with malignancy, surgical excision is the treatment of choice (8). On the other hand, if the patient has no complaints, conservative approach can be chosen and the tumor can be clinically followed. Radiotherapy can be chosen for high-risk patients for surgery.

Elastofibroma dorsi is a rare cause of back pain and is rarely seen in physical medicine and rehabilitation (PMR) settings. EFD can be considered as a differential diagnosis once a mass is palpated in the subscapular area. Thus, a careful physical examination is of importance.

Conflict of interests: There is no conflict of interest.

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