

Bilateral Elastofibroma Dorsi: Olgu Sunumu

BILATERAL ELASTOFIBROMA DORSI: CASE REPORT

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Özet

Toraks duvarının hassas olmayan kitlesel bir oluşumu olan elastofibroma dorsi, ileri yařtaki insanlarda görülen benign bir bađ dokusu proliferasyonudur. Bu olgu sunumunda her iki skapulanın alt ucunda bilateral mobil kitleleri bulunan 39 yařındaki bir bayan hastayı deđerlendirdik. Çekilen bilgisayarlı tomografi ve manyetik rezonans kesitlerinde, skapula alt ucuyla komşuluk yapan, heterojen yapıdaki kitle görünümleri vardı. Hasta ameliyata alınarak, kitleler tümüyle çıkarıldı. Histolojik deđerlendirmede, birbiri içine girmiş durumdaki kollajen ve elastik fibriller görünüyordu. Skapula alt ucunda hareketli kitleler palpe edildiđi zaman, cerrahın her zaman elastofibroma dorsi de göz önünde bulundurması gerektiđini düřünüyoruz.

Anahtar kelimeler: Elastofibroma dorsi, toraks duvarı, mobil kitle

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Summary

Seen as a nontender mass on the thoracic wall, elastofibroma dorsi is a benign connective tissue proliferation in elderly people. In this report, we describe a 39-year-old woman having bilateral mobile masses located on the inferior pole of the scapula. Computed tomography and magnetic resonance imaging showed heterogenous masses deep in relation to the scapular tip on each sides. They were resected completely. On histological examination, they exhibited a mixture of intertwining collagen and elastic fibers. We believe that a surgeon should always consider elastofibroma dorsi when palpate a mobile mass under scapula even in the younger patients

Keywords: Elastofibroma dorsi, thoracic wall, mobile mass

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Introduction

Elastofibroma dorsi is a benign connective tissue proliferation of unknown etiology on the thoracic wall, presenting typically as a nontender mobile mass in elderly patients. Since first description of this lesion by Järvi and Saxen in 1961, more than 170 cases have been documented on this subject [1-4]. In most cases, it is unilateral. Bilateral involvement is present in approximately 10% of the patients [5]. Although a large number of pathologic series exist, to our knowledge, only few reports on appearance of bilateral elastofibroma dorsi on computed tomography (CT), magnetic resonance imaging (MRI) and its surgical result have been published in the literature [6,7]. In this article, we describe an additional case having bilateral subscapular masses.

Case

A 39-year-old woman was admitted to our clinic with bilateral, painful parascapular soft-tissue masses that had been present for two years. She had a history of recurrent left-sided subscapular pain for two months and clicking sensation mainly

occurring during elevation of arm but her range of motion was not limited. Physical examination revealed bilateral soft tissue masses in sizes of 8x7 cm on the right and 9x8 cm on the left side consequently. They were only visible and palpable distal to the inferior pole of the scapula during flexion of the pectoral girdle. Chest roentgenogram was normal and no pathological findings were seen in laboratory data. Scanning by CT, both of the lesions were imaged deep in relation to the scapular tip, serratus anterior, latissimus dorsi and levator scapula muscles but superficial to the ribs and periosteum. The both masses appeared somewhat heterogeneous. Thin layers of adipose tissue were seen separating each mass from the posterolaterally displaced latissimus dorsi muscle (Figure 1). Preoperative chest MRI images showed bilateral, solid, unencapsulated masses. Underlying bone was intact, and no evidence of chest wall infiltration was detected (Figure 2 and 3). This constellation of findings was considered diagnostic for elastofibroma dorsi.

Both of the masses were resected completely under general anesthesia with a tumor free margin on each side. At the time of surgery, the mass was approached via a skin-crease incision inferomedial to the scapula. The masses, deep to latissimus dorsi, were 8x7x3 cm on the right and 9x8x3 cm on the left and

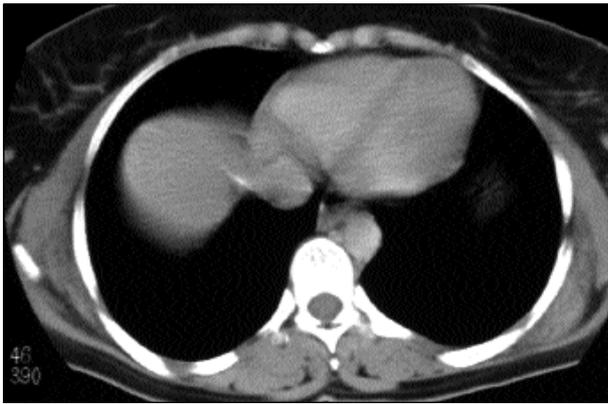


Figure 1. Axial CT scan of the patient showing bilateral soft-tissue masses immediately superficial to costal cage but deep in relation to latissimus dorsi and serratus anterior muscles. Scapular tip was seen on the right side adjacent to the tumor.

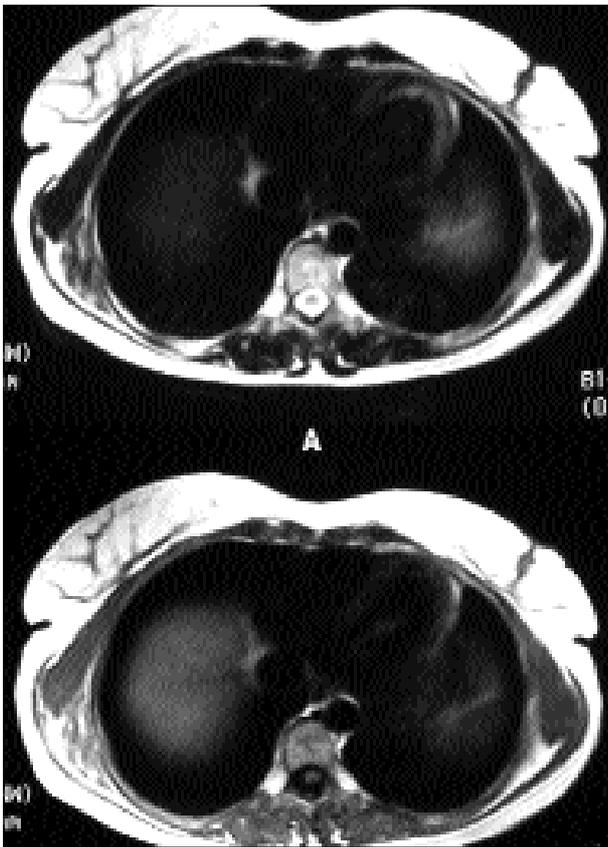


Figure 2. MRI images of the mass on the right side with a soft-tissue signal intensities similar to those of the adjacent skeletal muscle. It is interlaced with strands of fat.

attached to the rib periosteum and lower portion of the scapula were resected bilaterally. At the last follow-up a year after the operation, she was doing well and there were no symptoms or signs of recurrence. Macroscopically, they were not encapsulated and were firm, but elastic with an irregular

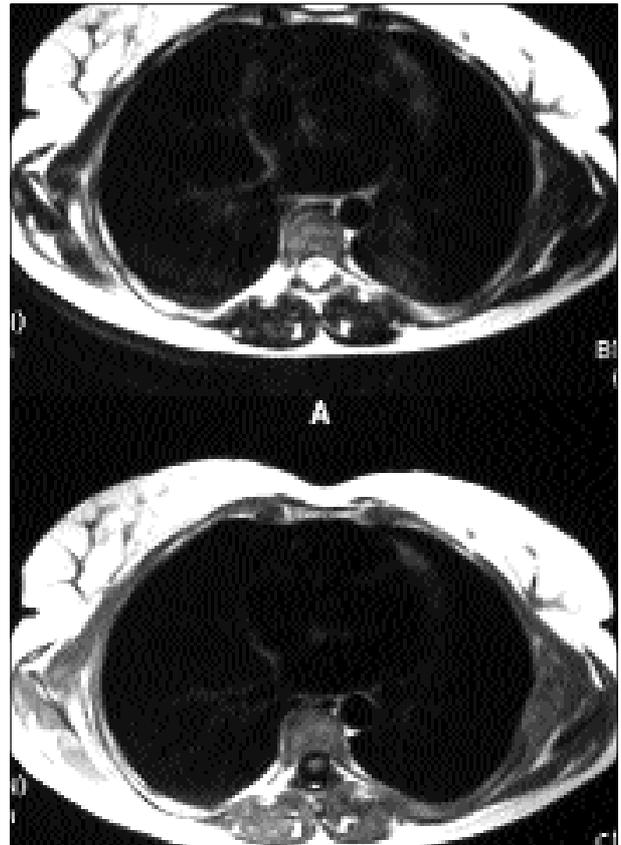


Figure 3. MRI images of the mass beneath the periscapular musculature on the left side. It has a signal intensity similar to that of the surrounding muscles with a heterogeneous composition of fibrous and adipose tissues.

configuration. The cut surfaces appeared to be fibrous whitish-yellow. On microscopic study, sections from the both sides were stained with Verhoeff's elastic van Gieson stain. Both of the tumors exhibited a mixture of intertwining swollen, red collagen and fibriform type or minor globular-type elastic fibers seen as black. Occasional fibroblasts were identified between them. Islands of mature adipose tissue varying in size were found within the proliferation (Figure 4).

Discussion

Since its first description by Järvi and Saxen in 1961 [1], elastofibroma has been known as a rare benign tumor of unknown pathogenesis seen mostly in the elderly people. Although it is commonly found in the subscapular region beneath the rhomboid and latissimus dorsi muscle at the level of the sixth through eighth ribs, uncommon locations have also been reported including, infraolecranon and subscapular region [1,4]. There are also a few reports of involvement at other sites including greater trochanter, deltoid region, ischial tuberosity and even tricuspid valve [4]. Although bilateral involvement has been reported approximately 10% of patients, it is usually unilateral [4,5]. Our patient had bilateral mobile solid masses under the scapula and there was no tumor at any other sites of

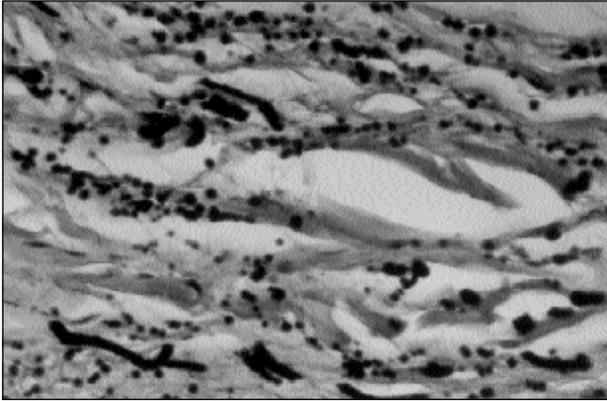


Figure 4. Histologic appearance of the tumor revealed a mixture of intertwining swollen collagen and fibriform type or minor globular-type elastic fibers seen as black. Occasional fibroblasts and residual fat were noted between them (Verhoeff's elastic van Gieson stain, x200)

the body.

To understand etiopathogenesis of elastofibroma dorsi, two main theories have been proposed, suggesting either true neoplasm or reactive tissue proliferation [2,4,6]. Because this tumor is often found in location exposed to mechanical stress, it may result from the friction of the scapula against the thorax and thus generating tumor growth, especially in lesion occurring bilaterally [5,8,9]. Several authors have emphasized the role of fibroblasts producing excessive amounts of elastic matrix as a result of constant trauma [1,2,5]. However, Marin et al [9], found no correlation between repetitive trauma and tumor formation. The patient discussed here, was a housewife and she has been not working so hard. Hence, we also thought that there is no correlation between tumor genesis and constant trauma as Marin et al [9] did.

In this disease, there was found to be an excessive amount of elastic material produced by fibroblasts as well as obstacles in the course of forming elastic fibers. Therefore, it was considered that this tendency was a sort of reactive hyperplasia taking place with a constitutional predisposition in the background. Histological findings consist of a mixture of intertwining swollen, eosinophilic collagen and elastic fibers, associated with occasional fibroblasts. They are embedded in a collagenous background that may show mucoid change and contains variously sized aggregates of mature fat cells [4,5]. Special elastic stains may be useful to contrast the elastic fibers from the collagenous ones [5]. Both of the tumors stained with Verhoeff's elastic van Gieson exhibited similar histological findings as explained above. Swollen red collagen and black colored degenerated elastic fibers indicates microscopic diagnosis of the tumor apparently.

The imaging features of elastofibroma dorsi have been characterized in recent years [6,8]. Plain radiographs generally show no evidence of a soft tissue tumor. It usually of little value in diagnosing elastofibroma dorsi, occasionally it may show an

elevation of the scapula and soft tissue density in the subscapular and periscapular area [8]. However, both CT and MRI have been used to reveal masses in patients with this tumor [6,8]. With either imaging technique, the tumor may have a characteristic appearance that includes streaky layers of soft tissue that are similar in signal intensity or attenuation to skeletal muscle and that are interspersed with areas of fat. CT scan of our patient revealed poor differentiation of tumor edges from surrounding muscles on the both sides. On MRI images, low signal intensities were found in both of the tumors in this case, which reflect the fibrous and collagenous nature of the masses and high signal intensities would reflect the presence of the fat tissue.

Although elastofibromas has been known a tumoral mass seen generally in the elderly people past the age of 55 years [2,5,6], it was rarely reported in the younger ones [3,8]. Majo et al [3] revealed two women having unilateral elastofibroma dorsi aged of 45 in their study. Our patient was 39-years-old and she was interesting being one of the few young patients having bilateral mass. We believe that a surgeon should always consider elastofibroma dorsi when palpate a mobile mass under scapula or see a heterogeneous mass between latissimus dorsi muscle and bony thorax on either CT or MRI even in younger patients. Complete resection is the best treatment when the lesion was symptomatic.

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