



## Rare Case of Bilateral Dorsal Elastofibroma

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### ABSTRACT

The dorsal elastofibroma is a rare benign soft-tissue tumor that is slowly progressive and is present in 99% of cases in the sub-scapular region, occurring in the active elderly.

The diagnosis can be established on the typical topography of the mass and its characteristic aspect in CT and MRI. The purpose of this study is to highlight the diagnostic characteristics of the elastofibroma and to evaluate the rarity and the existence of bilateral localization. This study reports the case of a 62-year-old housewife with a bilateral location of scapular dorsal elastofibroma, the largest and most symptomatic of which is the left-sided. The diagnosis of the elastofibroma is clinical above all, it is evoked before any dorsal under scapular mass sometimes painful or genat the back and the shoulder mobility. Computed tomography or MRI is the key test for diagnosing the tumor, and some authors report that the specific and evocative appearance of the elastofibroma on the imagery is largely sufficient to confirm its diagnosis, while others believe that the anatomo-pathological examination of the mass is irreplaceable not to miss a malignant or more aggressive tumor. Elastofibroma is a rare benign tumor soft tissues that deserve to be known, for a better adapted therapeutic attitude, its typical location and radiological studies characteristics should evoke the diagnostic. Surgical excision allows histological diagnosis and constitutes the treatment of these tumors.

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### INTRODUCTION

Elastofibroma is considered a benign tumor, or non-encapsulated pseudo tumor from abnormal multiplication of elastic tissue cells within a connective tissue or a fatty tissue (1), its most frequent location is the dorsal region of the chest wall and precisely under the scapula tip, bordered by the sub scapular, rhomboid, dorsal and anterior serratus muscles (99% of cases) (2). It is bilateral in 10% to 66% of cases. This tumor essentially affects older women and manual workers (3).

Many authors consider that imagery, and more precisely CT or MRI scan is enough to make the diagnosis, without the need for biopsy, and allows to stop the investigations (4). Some even say that his typical clinic presentation may be enough (5).

However, in the symptomatic forms, or if there is a doubt about the benign nature of the tumor, a biopsy or a resection must be discussed (6).

### CLINICAL CASE

This is a 62-year-old woman, housewife with no specific history who was seen in consultation following the appearance of two masses at the level of the back discovered by chance during self-examination and associated with mechanical pain at the time mobilization of the left shoulder.

The clinical examination showed two under scapular swellings, the largest of which was the one on the left side (**Figure 1**), and better perceived with the upper limbs in antepulsion, these masses were well limited, mobile, and painful to palpation, localized under the infero-medial angle of the omplate. Ganglionic areas were free.

Biological assessment and chest x-ray were normal, while ultrasound showed a tissue mass slightly displacing the left sub scapular muscle.

Thoracic Computed Tomography (CT) was requested to determine the constitution of the two tumors, their measurements, their extent and their relationship with the scapula and the rib cage.

The scanner showed the existence of two solid masses, quite well limited, tissue density, unencapsulated; the largest was the one on the left measuring 12 cm/8,3 cm, the other on the right measured 7 cm / 3.5 cm. These two formations were located on each side against the posterior aspect of the thoracic cage and partially covered by the scapula and the muscular planes (**Figure 2 and Figure 3**). Both masses raised on each side the large serrated muscle with which they kept a cleavage plan

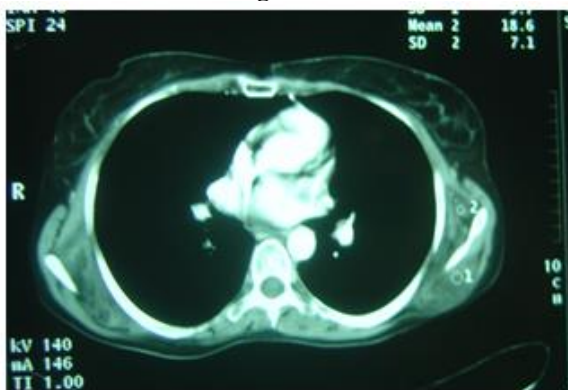


**Figure 1.** Clinical aspect of bilateral Elastofibroma.

Despite the evocative radio clinical context, the patient had a biopsy with anatomo-pathological analysis that confirmed the diagnosis of elastofibroma. She was resumed for excision of both masses four weeks later (**Figure 4**, **Figure 5** and **Figure 6**) and the postoperative course was favorable.

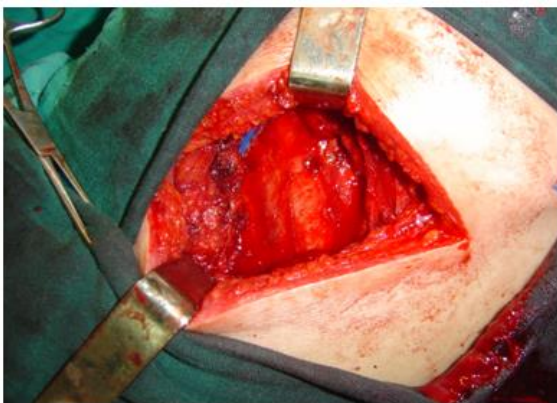


**Figure 2**



**Figure 3**

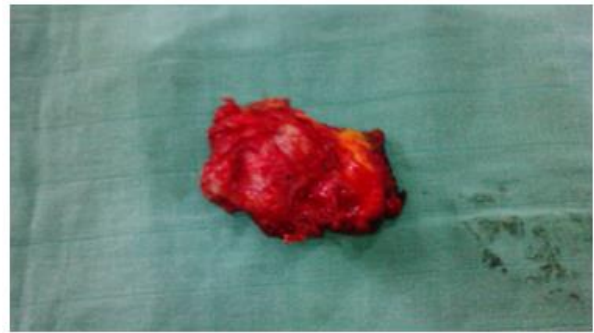
**Cross-sectional CT scan showing bilateral location of Elastofibroma.**



**Figure 4. Intra-operative image of left Elastofibroma.**



**Figure 5. Removal of Left Elastofibroma.**



**Figure 6. Removal of Right Elastofibrom.**

#### **DISCUSSION:**

Elastofibroma is a benign, fibrous and non-encapsulated soft tissue tumor, described for the first time by a team of Scandinavian pathologists in 1961 (7), although rare and of slow evolution (8), it must be evoked when a patient reports a functional discomfort during the scapula movements (9).

The physiopathological hypothesis of the EF most reported in the literature is that of micro trauma caused by scapula rubbing with the thoracic cage, which is why the notion of forced manual exercises should be sought in interrogation. (10)

The elastofibroma is most often located in the infra- and peri-scapular region and almost exclusively at the caudal angle of the scapula. However, other localizations have been reported: olecranon, ischiatic, digitalis, deltoid, axillary, trochanteric (11), it reaches the subject aged over 50 years with a predilection of the female sex. Its dorsal bilateral location is relatively rare with asynchronous development. Two different localizations can also be observed in the same patient (12)

Elastofibroma is often asymptomatic and in more than 90% of cases its discovery is fortuitous by patients with the appearance of a sub-scapular region mass, sometimes it can lead to moderate pain or shoulder functional impotence (13). Exceptionally, a neurological involvement of the upper limb can be observed evoking a cervico-brachial neuralgia.

The physical examination shows a mass of firm consistency, often painless, fixed in relation to the deep plane and movable with respect to the superficial plane, better palpated with the limb in abduction or antepulsion.

The CT and especially the MRI are very efficient insofar as they highlight a stratified characteristic aspect, made of a mixture of fatty tissue (low density CT, T1 signal and T2 intermediate signal in MRI) and fibrous tissue (same density on CT and same MRI signal as muscle) (14)

Some authors believe that the diagnosis of EF is based on its clinical appearance and its characteristics decelerated by imagery as YU et al who reports that the tumor appearance on MRI is sufficient to bring the diagnosis, while other authors believe that imagery is not sufficient and that it is mandatory to complete the assessment with a surgical biopsy to eliminate a more aggressive tumor (15)

The differential diagnosis of low signal peri-scapular lesions or T1 and T2 intermediate signal includes all low cellularity and abundant collagenous tumor lesions such as desmoid tumor, neurofibroma, liposarcoma, aggressive fibromatosis and malignant histiocytofibroma (16)

Many authors have reported cases of bilateral dorsal EF often causing bilateral chest pain during movement (17)

Histologically, it is unencapsulated tumor imperfectly limited at the periphery, consisting of a combination of collagenous bundles and irregular elastic fibers, arranged in

bundles and fragmented into small eosinophilic globules. The fibro-collagenous frame is myxoid and not very cellular and a mature adipose tissue is enshrined in this proliferation (18)

Surgical treatment is considered as the curative treatment of dorsal EF, it is mainly intended for painful forms and hindering the shoulder mobility or for bulky forms that pose an aesthetic problem (19). The excision must be total, taking into account the absence of capsule and net anatomical barrier, which makes it technically delicate (19), and any incomplete tumor excision promotes recurrence (20), while there is no case of malignant degeneration reported in the literature.

Finally, some authors report the use of radiotherapy, although no argument in the literature justifies its use (21)

#### CONCLUSION

The EF is certainly a rare tumor, but it seems useful to know it and to evoke it in first intention in front of any patient presenting a back mass with functional discomfort accompanying the scapula movements, especially the elderly subjects and of female sex

CT and MRI have their undisputed importance in the EF positive diagnosis, and anatomopathology, in some authors remain inevitable to not to miss a more aggressive tumor.

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