

## Case Report

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# Bilateral Elastofibroma Dorsi as Differential Diagnosis in Posterior Chest Wall Tumor: A Case Report

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## Introduction

Elastofibroma dorsi (ED) is a relatively common, albeit rarely diagnosed, benign soft tissue tumor, often with a sub- or infrascapular localization. ED is most common in females >50 years of age, and is unilateral in 67-90% of cases [1]. The pathogenesis is unclear, but it is hypothesized that repeated microtrauma stemming from friction between the scapula and the posterior thoracic wall induces an abnormal proliferation of fibroelastic tissue. Studies have also shown considerable heritability [2]. The condition is often asymptomatic, but can result in pain and decrease in upper extremity function. The diagnosis is made from MRI or pathology examination of a biopsy or tissue post excision. The present paper discusses a case of bilateral ED in a 76 year old female with a history of several years of manual labor as a hairdresser.

**Keywords:** Tumor; Bilateral elastofibroma dorsi; Tissue tumor

## 1. Case Report

A 76 year old female previously diagnosed with gout and hypertension was referred to orthopedic evaluation from her physiotherapist, after incidental discovery of a large infrascapular tumor on the right side. There were no mechanical symptoms, or symptoms suspect for malignancy. The patient was a former hairdresser, with a history of several years of manual labor, and was right handed. There was no family history of thoracic wall tumors. The primary physician referred the patient to ultrasound examination, which showed a subfacial tumor, with no other defining characteristics. The primary suspicion was an atypical lipoma.

At the primary physical examination a fixated, subscapular tumor measuring 5 by 5 centimeters was found. There was no soreness or pain, and shoulder mobility was unaffected. There were no breast tumors, cervical or axillary lymphadenopathy. The upper extremity was intact neurovascularly. No tumor was found under the left scapula. MRI of the right scapular region showed a contrast enhancing, uniform and streaky mass interpositioned between the subscapularis muscle and the posterior thoracic wall, without involvement of the costae. The left side was imaged for comparison, and showed an equally located but marginally smaller mass. Upon secondary physical examination this tumor could also be found by the physician. The MRI showed no signs of malignancy (Figure 1 and 2).

These findings were discussed in a multidisciplinary tumor conference, with the conclusion that the masses represented bilateral ED. The patient was presented with treatment options in the form of conservative/no treatment or operation with non radical resection under general anaesthesia. Due to the scarcity of symptoms, weighed against inherent risks in surgery, the patient refrained from resection, with the possibility of seeking orthopedic consultation in the future in case of occurrence of symptoms and a desire for operative treatment.



**Figure 1:** The patient presenting the mass located beneath the right scapula.



**Figure 2:** The patient presenting the bilateral masses at follow up visit.

## 2. Discussion

ED is an infrequently diagnosed benign condition, consisting of a slowly growing and often asymptomatic tumor located infra- or subscapularly. The literature describes a relatively common appearance of ED, although it is likely under diagnosed due to its often asymptomatic nature [3]. On the other hand, more rapidly growing and symptomatic cases of ED have also been reported. The diagnosis is made from MRI, or alternatively by biopsy or pathology examination after resection of the mass. The condition does not require treatment, unless the patient presents with pain or decreased functioning of the upper extremity. The treatment consists of surgical resection, and recurrence has not been described in the literature, even after non-radical resection. The surgery is safe, efficient, and leads to good functional outcome [1, 2]. The risks of surgery consist of damaging nerves and vessels, postoperative infection, and postoperative seroma or hematoma, which might require draining. No lasting sequelae have been described.

In regard to differential diagnostics, one should consider the benign and malignant chest wall tumors. The benign tumors consist largely of fibrous dysplasia, hemangioma, lipoma and schwannoma. Malignancy should be considered, especially in large and rapidly growing tumors. The most common primary malignant tumor of the chest wall is sarcoma, whereof 55% are chondro- and osteosarcomas, and 45% are soft tissue sarcomas. Approximately 60% of all primary chest wall tumors are malignant, but these tumors account for just 1-2% of all thoracic cancers [4, 5]. In addition to these tumors, other forms of cancer are known to metastasize to the chest wall. As such, it is important to examine chest wall tumors with CT and/or MRI, and to consider PET-scan and biopsy.

This case presents dorsal elastofibroma as a relevant differential diagnosis in chest wall tumors, and provides an example of diagnostic procedures and treatment of the condition. Diagnosing the condition can be done non-invasively, and surgery is rarely necessary.

## Conflicts of Interest

None. The article submitted is neither published nor is under consideration by any other journal.

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