



Elastofibroma Dorsi: Our Experience In A Tertiary Care Hospital Of Himalayan Region

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Introduction: Elastofibroma dorsi (ED) is a rare, benign, connective tissue tumor typically occurring in posterior thoracic wall between serratus anterior and latissimus dorsi muscle adjacent to the inferior angle of scapula. Actual aetiology remains unknown and classical clinical features which include swelling, pain and discomfort in scapular region along with MRI, usually confirm the diagnosis.

Methods : In our study, we described 11 patients with elastofibroma dorsi from 2014 to 2021 identified retrospectively treated with marginal excision. Patient's age, gender, lesion side, tumour size, and location were analysed in addition to intraoperative and post operative complications.

Results: The median age in our study was 58 years with a male :female ratio of 0.57:1. The tumour was more common present on left side with pain being the most common symptom. Median size of the tumour was 7 cm. There were no intraoperative or postoperative complications. No recurrence was reported in any of the patients.

Conclusion: Elastofibroma dorsi is an uncommon benign soft tissue tumour occurring in the infrascapular region of elderly patients. Typical MRI findings especially confirm benign elastofibroma. Excellent results with minimum morbidity are obtained with marginal excision. Prognosis is usually good with no recurrence.

Keywords: Elastofibroma dorsi, chest wall tumour, scapular pain, marginal excision

Introduction

Elastofibroma dorsi (ED), as described by Jarvi and Saxen [1] in 1961, is a benign, connective tissue tumor. Typical sites of location include posterior thoracic wall between serratus anterior and latissimus dorsi muscle adjacent to the inferior angle of scapula. As it is very uncommon (<1% of chest wall tumours), it has not been reported much. [2] Actual aetiology remains unknown, although it has been linked to aging [3] and genetics since it is bilateral and runs in families in 30% cases. [4] Clinical features usually include swelling, pain and discomfort in scapular region. MRI and CT scan aid in diagnosis and reveal a bilateral or unilateral lesion and biopsy confirms the diagnosis. MRI reveals a poorly circumscribed, heterogeneous soft tissue mass with gadolinium enhancement. [5-7] In our study, we described 11 patients with elastofibroma dorsi who underwent marginal excision.

Material And Methods:

It was a retrospective study conducted in the Department of plastic and reconstructive surgery from 2014 to 2021 wherein we identified 11 patients with elastofibroma dorsi who underwent marginal excision. Patient's age, gender, lesion side, tumour size, and location were analysed in addition to intraoperative and post operative complications. A written and informed consent was sought from all the patients in the study and the study was cleared from the institutional ethical committee. All patients were subjected to preoperative MRI scans and final diagnosis was confirmed by biopsy. All patients were operated under general anaesthesia in prone position. In all of the patients latissimus dorsi muscle was split and typically, a hard tumorous like tissue was attached to serratus anterior and rib periosteum in infrascapular region. Marginal resection was done in all patients and the wound was closed over a suction

drain which was usually kept for 2 days. Follow up was done at 2 weeks , 1 month and then 3 monthly. Every patient was followed up for a minimum of 10 months.

Results:

The age of the patients ranged from 49 to 74 with the median of 58 years There were 7 females and 4 males in our study with a male :female ratio of 0.57:1. The tumour was present on left side in 7 patients ,right side in 3 patients and bilateral in 1 patient. Pain was the most common symptom followed by discomfort in scapular region. Clinical examination revealed a firm swelling in subscapular region which was of varying tenderness to non tender in some. Size of the tumour varied from 5 to 10 cm with a median of 7 cm. There were no intraoperative or postoperative complications. Biopsy of all tumours came out to be elastofibroma dorsi (mixture of fibroblasts, elastin and collagen with interspersed adipose tissue). No recurrence was reported in any of the patients.

(Table 1).

Discussion:

Elastofibroma dorsi (ED) is a rare benign tumour of connective tissue. In our article we discuss a series of 11 cases with elastofibroma dorsi. The tumour typically occurs in posterior thoracic wall between serratus anterior and latissimus dorsi muscle adjacent to the inferior angle of scapula, we had a similar findings in our study without any exception. Historically some cases have been reported in other parts of the body e.g greater trochanter, stomach, hand, eye, axilla. [8] In our study ,the age of the patients ranged from 49 to 74 with the median of 58 years. Elastofibroma dorsi affects primarily the elderly, over 55 years of age, with a mean age of about 60 years at diagnosis.

[9] Chandrasekar CR et al [10] in their study of 15 patients showed mean age at diagnosis as 68.4 which corresponds with our study. There were 7 females and 4 males in our study with a male :female ratio of 0.57:1 . Deveci MA et al [11] in his study of 61 cases showed a male : female ratio of 0.13 : 1 which is concurrent to our study. Elastofibroma dorsi unanimously is present more frequently in women rather than men (F : M ratio 3.9

: 1). [9] The tumour was present on left side in 7 patients in our study ,right side in 3 patients and bilateral in 1 patient. Bilateral elastofibroma dorsi have been reported to be quite common, up to 50% in some studies. [9,12] This may be attributed to the small number of cases in our study which don't depict the actual prevalence in our population. Contrary to our study, right sided lesion was found to be more common in a study by Deveci MA et al . [11] Pain was the most common symptom followed by discomfort in scapular region. In concordance to our study, Majó J et al [12] in his study of 10 patients showed that pain and snapping scapula were most common symptoms. Size of the tumour varied from 5 to 10 cm with a median of 7 cm. Similarly a study by Chandrasekar CR et al [10] showed the size of tumour varied in size from 3 to 10 cm with the average size of 7 cm .No recurrence was reported in any of our patients. Analogous to our study, studies by Chandrasekar CR [10] and by Deveci MA et al [11] showed no recurrence in their studies. Recurrence is extremely uncommon and has been historically attributed to incomplete excision. [13,14] Moreover , there has been no documentation of malignant transformation. [9, 15]

Conclusion:

Elastofibroma dorsi is an uncommon benign soft tissue tumour occurring in the infrascapular region of elderly patients. Clinical features and typical MRI findings usually confirm elastofibroma. Excellent results with minimum morbidity are obtained with marginal excision. Marginal excision of the lesion can be performed with minimal morbidity. Prognosis is usually good with no recurrence.

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Figure 1: MRI scan demonstrating elastofibroma dorsi

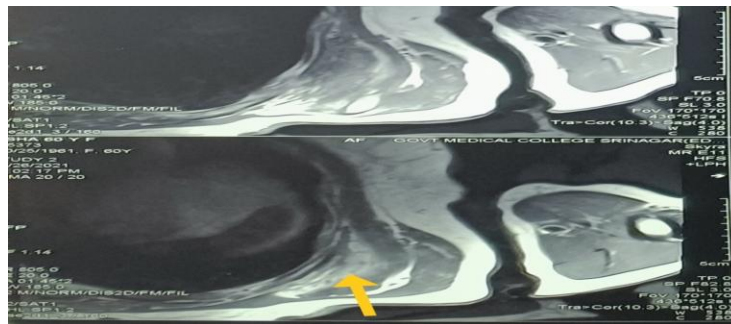


Figure 2: Bulge in left scapular region during clinical examination



Figure3 :Intraoperative photograph demonstrating elastofibroma dorsi with its extension to rib periosteum



Figure 4 :Surgical specimen of elastofibroma dorsi



Table 1

Serial number	Age (years)	Gender	Side	Size (cm)(maximum dimension)	Follow up (months)	Recurrence
1	56	Female	Left	10	11	Nil
2	58	Female	Bilateral	9	10	Nil
3	72	Male	Left	7	24	Nil
4	71	Female	Left	6	11	Nil
5	62	Female	Right	6	15	Nil
6	49	Male	Left	8.5	17	Nil
7	55	Male	Right	7	36	Nil

8	74	Female	Left	10	38	Nil
9	50	Male	Left	9	17	Nil
10	58	Female	Right	6	24	Nil
11	61	Female	Left	5	21	Nil