

# Unusual Late Complication of Latissimus Dorsi Free Flap Donor Site: Elastofibroma Dorsi

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**Summary:** In existing literature about elastofibroma dorsi (ED), no cases reported ED arising after latissimus dorsi flap harvest. Concretely, we present a patient who developed an ED at latissimus dorsi free flap donor site 10 years after harvesting. After our research, we found the occurrence of ED after thoracotomy surgery, stressing the importance of previous local trauma. Latissimus dorsi flap harvest is also a local traumatic episode, although its association with ED has not been previously reported. Thus, ED should be considered in the differential diagnosis of deep soft tissue lumps after latissimus dorsi harvest. (*Plast Reconstr Surg Glob Open* 2022;10:e4090; doi: 10.1097/GOX.0000000000004090; Published online 4 February 2022.)

**E**lastofibroma dorsi (ED) is a rare benign fibroblastic/myofibroblastic tumor<sup>1</sup> first described by Jarvi and Saxen in 1961.<sup>2</sup> It seems to appear secondary to mechanical lesions due to altered scapulothoracic biomechanics during abduction, being suggested at the same time to occur as a result of tissue aging.<sup>3</sup> Generally asymptomatic, when symptoms are present, they usually include a palpable mass, mild pain, and functional restriction with snapping during the scapula movement.<sup>4</sup>

Magnetic resonance imaging (MRI) demonstrates a lenticular, poorly circumscribed, heterogeneous soft-tissue mass. The lesion usually grows beneath the rhomboid major and latissimus dorsi muscles, usually developed between the inferior angle of the scapula and the thoracic wall. These MRI findings and the distinctive location are diagnostic of ED.<sup>5</sup>

The purpose of this report is to present a patient who developed an ED at latissimus dorsi free flap donor site 10 years after harvesting. To the best of the authors' knowledge, this is the first ED reported after latissimus dorsi flap harvest.

## CASE PRESENTATION

A 55-year-old male patient presented 10 years after an uncomplicated right free latissimus dorsi muscle transfer (for lower limb reconstruction) with complaints in

the donor area, in which the subcutaneous tissue and the skin were closed by conventional methods. The patient complained of dull pain and a deep lump adherent to the chest wall about the tip of the scapula, with occasional snapping. The fascia was left unsutured. Significantly, shoulder flexion was affected by the tumor, being approximately 120 degree preoperatively. The MRI showed the typical diagnostic image of ED (Fig. 1): a lenticular, poorly circumscribed, heterogeneous soft-tissue mass between the inferior angle of the scapula and the thoracic wall.

After discussion with the patient about the benign nature of the tumor, we decided on surgical removal. The tumor was entirely resected through the previous scar, without recurrence at 4 years postoperative. The size of the tumoral mass resected was 8×6.5×4 cm. The defect was closed without complications despite these dimensions, leaving a suction drain for 48 hours. Histologic pathology showed fibrous and collagenous strands intermingled with fat cells, typical findings of ED. Shoulder flexion improved to 170 degrees postoperatively.

## DISCUSSION

ED represents 1.6%–2.7% of all primary tumors localized on the chest wall in adults, which increased up to 13%–16% in autopsy series. Bilateral ED is reported between 10% and 66% of cases.<sup>6</sup>

The differential diagnosis is with other soft-tissue tumors of the chest wall, especially sarcomas. Deeply-located lipomas are more frequent than ED and should be ruled out through MRI.<sup>7</sup> The typical MRI findings are diagnostic of ED.<sup>8</sup> A needle biopsy can be considered in rapidly enlarging lesions or those with atypical MRI characteristics or larger than 5 cm.<sup>3</sup> Surgical removal of the lesion is the recommended treatment, especially in symptomatic cases. Although in a recent study of 57 ED

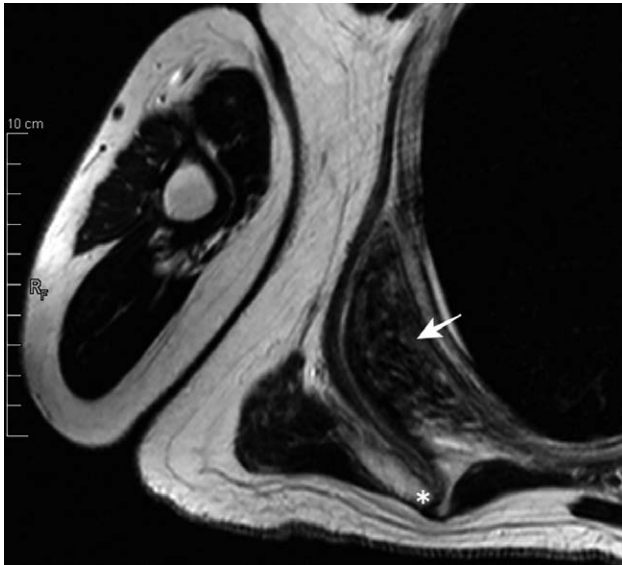
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**Fig. 1.** Magnetic resonance imaging evidenced the lenticular heterogeneous soft-tissue mass (arrow), developed between the inferior angle of the scapula (asterisk) and the thoracic wall.

patients, Sahin et al discourage routine removal of ED regardless of its size,<sup>9</sup> considering there have been no cases of malignant proliferation following ED described in the literature. As our patient complained of pain, snapping, and range of motion restriction, we proceeded with the surgical treatment.

Trauma has been implicated in the pathogenesis of ED, although previous traumatic events are frequently absent. Girvin et al<sup>10</sup> and Ozan et al<sup>11</sup> describe the occurrence of ED after thoracotomy, stressing the importance of previous local trauma. Latissimus dorsi flap harvest is also a local traumatic episode, although its association with ED has not been previously reported. ED should be

considered in the differential diagnosis of deep soft tissue lumps after latissimus dorsi harvest.

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