Giant intramuscular haemangioma of the chest wall with osteolytic change

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Abstract

Intramuscular haemangioma of the chest wall is very rare, and only few cases associated with rib destruction has been reported. Here, we describe a 37-year old woman with a giant intramuscular haemangioma arising in the left back and associated with rib destruction.

Keywords: Chest wall • Haemangioma • Intramuscular

INTRODUCTION

Haemangiomas are relatively common; however, intramuscular haemangiomas of the chest wall are very rare. Intramuscular haemangiomas are reported to account for ~0.7% of all reported benign haemangiomas [1]. Among them, intramuscular haemangiomas arising from the chest wall are even less frequent, and to our knowledge, there have been only few reports in English of an intramuscular haemangioma arising from the chest wall and associated with the osteolytic change [2]. Here, we described one such rare case arising in the left back and associated with rib destruction.

CASE

A 34-year old woman was referred to our hospital because of an abnormal CT finding during an investigation for slight liver dysfunction. Abdominal CT demonstrated the osteolytic change of the left eighth rib near the vertebra. She had no subjective symptoms such as back pain and had no history of chest trauma. On physical examination, a large painless soft-tissue mass was palpable beneath the skin in the left back. The overlying skin was normal, and no local bruits were heard on auscultation.

Chest CT showed a large fat-density mass in the left back associated with large neoplastic vessels but no intratumoral calcification (Fig. 1A and B). To diagnose the tumour, biopsy of the tumour was done at the left back. The tumour was fatty in nature with a very rich blood supply. Histological examination revealed large and small blood vessels infiltrating the surrounding muscle and adipose tissue, and vascular spaces lined by endothelial cells with no signs of atypia or mitosis (Fig. 2). Subsequent histological examination led to a diagnosis of intramuscular haemangioma. Because the tumour was too large to resect completely, the patient was followed up at our outpatient clinic. Her tumour has shown no marked change in the 3 years since it was discovered.

DISCUSSION

Intramuscular haemangiomas are a type of soft deep muscle haemangiomas and account for only 0.7% of all reported benign haemangiomas [1]. Many intramuscular haemangiomas arise in the extremities, especially the thigh, but those affecting the chest wall are very rare. Unlike haemangiomas occurring in the skin or subcutis, intramuscular haemangiomas are usually asymptomatic and the overlying skin is typically not discoloured. Most intramuscular haemangiomas of the chest wall are discovered on chest X-ray films at routine medical check-ups, or appear as a bulge on the chest wall. Our patient had no symptoms and her tumour was detected accidentally by abdominal CT during an investigation for slight liver dysfunction.

Haemangiomas are benign vascular neoplasms that are mostly considered to be congenital in origin. Indeed, a preponderance of cases arising early in life has been documented. Approximately 94% of intramuscular haemangiomas occur before the age of 30 without gender predilection [3]. Scott [4] theorized that abnormal embryonic sequestrations may be extended by the establishment of blood flow in fresh parts of a pre-existing malformation. The trauma has also been implicated in the genesis of vascular anomalies and may precipitate expansion of a pre-existing condition or produce small areas of granulation tissue and enlargement with continued disturbance. In Scott's review, 17% of patients recalled a history of trauma to the site of the tumour [4]. In the present case, there was no apparent history or trauma, and the tumour was thought to be congenital.

In deep soft-tissue haemangiomas, regional osseous abnormalities, including periostitis, trabecular coarsening and cortical thickening, thinning and erosion, can be seen on conventional radiographs, and an awareness of these associated osseous
abnormalities can be helpful when making a diagnosis. However, among previously reported chest wall haemangiomas, only few cases showed osseous destruction [2].

The standard treatment for intramuscular haemangiomas is complete excision with clean margins [2, 5, 6]. However, because intramuscular haemangiomas tend to be locally invasive into the musculature and have no apparent capsule, it is difficult to decide the clean margin for resection. Therefore, the recurrence rate after incomplete surgical resection is up to 50% [7]. Complete resection is not always possible, and surgery can be associated with considerable blood loss, even when preoperative embolization is employed [8]. Because of the difficulty to detect the clean margin for resection and the high rate of post-surgical recurrence, every patient with an intramuscular haemangioma should be treated individually with consideration given to the tumour location, surgical accessibility, depth of invasion, patient’s age and cosmetic factors [3, 6]. To our knowledge, there have been no reported instances of malignant degeneration or metastasis. We did not carry out surgical treatment and opted for a long-term observation because the patient had difficulty in communicating due to mental retardation, the tumour was too large to ensure complete resection and there were no symptom. Three years have now passed since the detection of the tumour, and it has shown no change in size with no worsening of the osteolytic lesion.

In conclusion, the present case is an illustrative example of a giant intramuscular haemangioma of the chest wall with rib destruction. Although intramuscular haemangiomas are benign, they may be invasive to the rib.

Conflict of interest: none declared.

REFERENCES