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Post-traumatic Intramuscular Hemangioma of the Chest Wall

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Intramuscular hemangioma originated in chest wall is a rare benign tumor, with no relevant reports in Korea. In most cases, the tumor is discovered before the age of 30 years and it is reported that trauma operates as the initiation factor. It is essential to concern the clinical suspicion and conduct a CT scan for diagnosis. The principle of treatment is surgical excision with clear resection margin. The authors of this study report a case of surgical excision for post-traumatic intramuscular hemangioma of the chest wall with review of literature.

Key words: 1. Tumor, benign
2. Trauma
3. Hemangioma

CASE REPORT

A 31-year-old man was referred to our hospital for treatment of a palpable mass arising in the right side of the anterior chest wall. Pain was aggravated on exercise. Two years before presentation, he had injured this region by a motocycle accident. At that time, chest radiography did not show fracture or other abnormalities. He received analgesics and physical therapy. About 6 months after the accident, he noticed a palpable mass on the injured area with intermittent pain. This lesion was slightly increased during 18 months after injury, and the pain was aggravated on exercise.

The lesion had a smooth surface and was firm on physical examination. It measured approximately 2×3 cm sized and was located at the level of anterior arc of 5th rib on the right side of the anterior chest wall. Labaratory results and chest radiograph findings were normal. Chest CT scan showed that the heterogenous and well encapsulated soft tissue mass with fatty component and focal calcification (Fig. 1). The mass extended into the right serratus and intercostals muscle without bony abnormalities of the rib.

The resection was performed through small incision. The mass was completely removed with the surrounding margin of normal muscle. Histologically, the tumor showed many dilated vessels with endothelial cells in a skeletal muscle without sign of atypia or mitosis (Fig. 2). Histopathologic examination of the surgical specimen confirmed the diagnosis of intramuscular hemangioma. The patient has been free of recurrence for 48 months after surgery.

DISCUSSION

Although hemangioma is a relatively common tumor, intramuscular hemangioma is quite rare. It is reported that skeletal muscle hemangioma is generated in approximately 0.7% of benign hemangioma [1]. It is normally generated in upper

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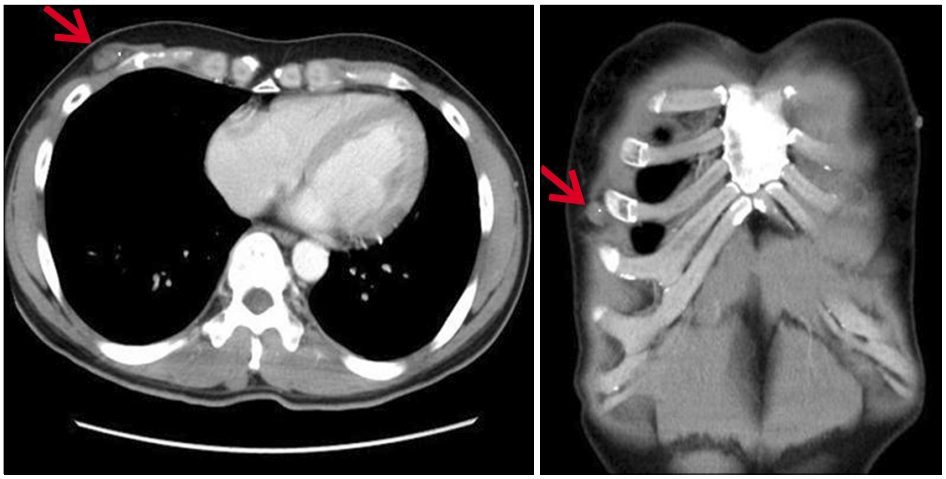

Fig. 1. Chest CT scan showed that the heterogenous and well encapsulated soft tissue mass with fatty component and focal calcification.

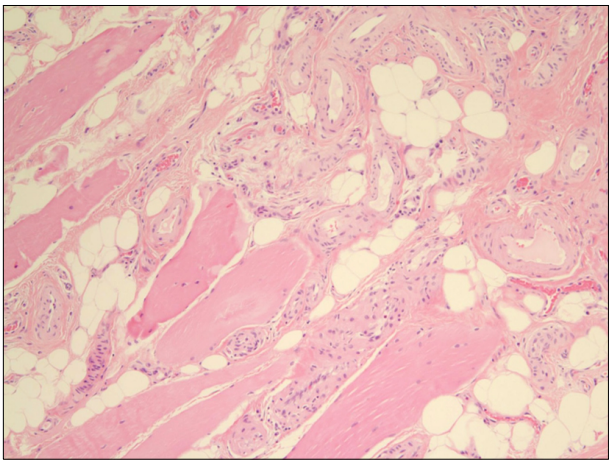

Fig. 2. A specimen stained with Hematoxylin and eosin showed intramuscular proliferation of dilated vessels with endothelial cells, adipose and fibrous tissue (H&E stain, ×100).

and lower extrimitites muscle and is rarely presented in chest wall [2,3]. There is no any relevant report in Korea yet.

Approximately 94% of intramuscular hemangioma is generated before the age of 30, and no sexual differences [4]. This tumor is originated from congenitally abnormal embryonic sequestration. Trauma is reported to play a very important role in initiation in young patients [5]. Scott [6] announced that granulation tissue is formed in muscle due to minor trauma, and that muscle contraction expedites proliferation or infiltration of vascular tissue into muscle. In this case, the tumor was also enlarged after trauma and it was generated from injured area.

Clinical suspicion is the most essential in diagnosis and CT scan is the most useful diagnostic tool. It is reported that focal calcification named phleboliths is discovered in approximately 25% of patients in CT scan [4]. Such small calcifications were also observed in this case. Differential diagnosis must be conducted on the following diseases: infection, primary bone tumor, lipoma, liposarcoma, desmoids tumor, and elastofibroma dorsi. Differential diagnosis can be achieved in that differences in general sign are presented during the tumor enlargement period in infection, in that primary bone tumor achieved with osseous involvement, in that lipoma does not present heterogenous nodular appearance, in that phleolith is hardly observed in liposarcoma and desmoids tumor, in that elastofibroma dorsi possesses more compact tissue and is mostly generated bilaterally [7].

The treatment of choice of intramuscular hemangioma is complete excision with clear resection margin. Local recurrence is reported as approximately 18% when complete resection is not achieved [2,3,8].

In conclusion, although intramuscular hemangioma originated in the chest wall is difficult to diagnose before surgery, it is important to concern the clinical suspicion and achieve complete excision.

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