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Case Report

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Deceptive Mass - Intramuscular Hemangioma in the Chest Wall: A Case Report

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Abstract

Intramuscular hemangiomas (IMHs) are rare, benign vascular tumours accounting for less than 1% of all hemangiomas. Chest wall IMHs are even rarer. Here, we report a case of a 16-year-old male who presented with a progressively enlarging, painless mass in the left lateral chest wall, first noted four years earlier. MRI revealed a lobulated, irregular lesion involving subcutaneous tissue and adjacent muscles. Surgical excision via small lateral incision was performed, removing the lesion entirely along with a margin of normal muscle. The feeding vessels were dissected and ligated using Trutie titanium clips and the diffuse ooze was managed with oxidised regenerated cellulose Clinicel Fibrillar (Healthium Medtech, India) and the skin was closed in layers using triclosan coated polyglactin 910 Trusynth Plus Neo suture. Histopathological analysis confirmed intramuscular cavernous hemangioma without atypia or mitosis. The patient recovered uneventfully and was discharged three days post-surgery. This case highlights the importance of accurate diagnosis and complete excision in managing rare chest wall hemangiomas.

Keywords: ***Chest wall tumour, Hemangioma, Magnetic resonance imaging, Thoracic wall, Vascular diseases, Vascular neoplasms.***

Introduction

Hemangiomas are rare benign vascular neoplasms resulting from an abnormal proliferation of blood vessels. They typically develop in the skin, subcutaneous tissues, muscle, or bone and are categorized as hamartomas rather than true neoplasms, consisting of vascular gaps that result from endothelial cells rather than the incorporation of adjacent vascular channels [1].

Intramuscular hemangiomas (IMHs) are uncommon, accounting for less than 1% of all hemangiomas, and localisation in the chest wall is extremely infrequent. Chest wall hemangiomas are rare tumours originating either from the soft tissue or ribs. Up to 98% of cases have a palpable fluctuant swelling or solid mass. Although the exact cause is unknown, the most plausible theory is that IMHs are congenital tumours, affecting 85% of newborns and first-year infants, caused by aberrant embryonic sequestrations, comparable to congenital arteriovenous malformations [1,2]. Trauma is also believed to play a significant impact initially in young patients [3]. Given that 94% of IMHs arise before the age of 30, with no gender bias, it is unknown whether congenital origin or the likelihood of trauma play a role in their etiology [3,4]. Unlike infantile cutaneous hemangiomas, IMH does not relapse spontaneously and is typically discovered at 20-30 years of age [5]. The local recurrence rate is significant, ranging between 30-50% [6].

We present the case of a patient who developed IMH of the chest wall, which was increasing in size and was eventually resected after four years.

Case report

A 16-year-old male presented with a palpable mass in the left lateral portion of the chest, first noted four years earlier and progressively enlarging. His medical history was unremarkable, with no prior chest trauma or respiratory symptoms.

Upon examination, a soft mass with unnoticeable pain and without distinct margins was observed in the left lateral side of the chest, near the mid axillary line. Chest MRI revealed an irregular, lobulated lesion approximately 11.5 cm x 6.5 cm x 4.0 cm in size in the anterolateral region of the left chest wall, involving subcutaneous tissue, antero-inferior part of left subscapularis, inferior lateral part of left pectoralis major and antero-superior part of left serratus anterior muscles. The lesion appeared hyperintense on T2-weighted images and hypo-isointense to adjacent muscles on T1-weighted images (**Figure 1**).

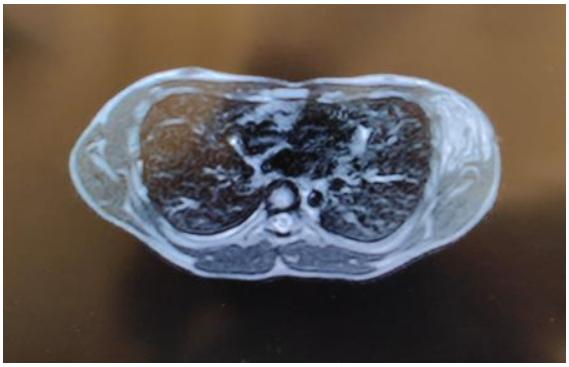

Figure 1: Chest MRI Scan

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A small lateral incision was made to remove the lump entirely, leaving the surrounding margin of normal muscle intact (**Figure 2**). The excised lesion measured 13.5 cm x 8.5 cm x 3.5 cm (**Figure 3**) and had a significant blood supply, with a single large venous channel draining into the left subclavian vein. All feeding vessels were carefully dissected and ligated with Trutie titanium clips. The venous pedicle was similarly secured at the cranial end of the mass. The diffuse ooze was managed with Oxidised Regenerated Cellulose Clinicel Fibrillar (Healthium Medtech, India) and the skin was closed in layers using triclosan-coated polyglactin 910 Trusynth Plus Neo suture. Histopathology confirmed the diagnosis of intramuscular cavernous hemangioma, with no evidence of atypia or mitosis. The patient had an uncomplicated recovery and was discharged three days post-surgery.

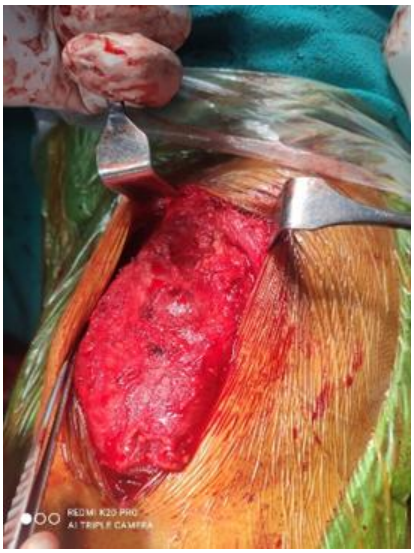

Figure 2: Intramuscular cavernous hemangioma

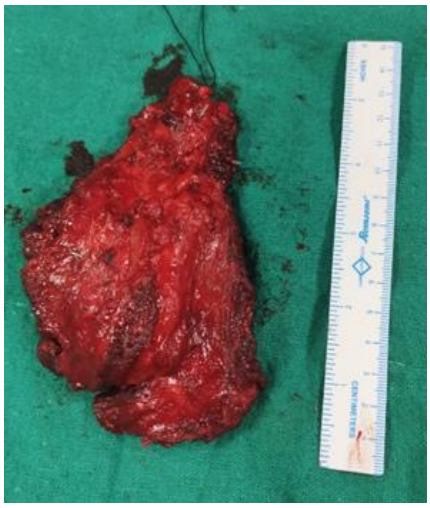

Figure 3: Surgically excised mass measuring 13.5 cm x 8.5 cm x 3.5 cm

Discussion

A high index of suspicion is necessary for the definitive diagnosis of IMH of the chest wall. In young adults, hemangioma should be taken into consideration in the differential diagnosis when a soft mass is found in skeletal muscle [1]. In fact, more than 90% of IMHs are misdiagnosed, since they don't exhibit any constitutional symptoms. For an accurate diagnosis, sonography, magnetic resonance imaging (MRI), and occasionally angiography may be necessary due to their location and unusual presentation. In any event, histologic analysis of the surgical and/or biopsy specimen yields the final diagnosis [4].

IMHs are categorised using the most widely used nomenclature by Allen and Enzinger, who in 1972, classified them based on their vessel size; capillary, cavernous, and mixed small/large vessel types. The prognosis and location have a strong correlation with this classification [3]. The most recent categorisation by the World Health Organisation (WHO) divides IMHs into three categories: benign, intermediate (locally aggressive), and malignant[5].

A range of therapeutic modalities for IMHs exists, including surgical excision, sclerotherapy, and vascular embolisation; nevertheless, surgical excision is the most frequently chosen option.

Partial excision is linked with high recurrence rates of upto 18% due to the lesion's infiltrative growth pattern; however, IMH does not cause metastasis. When excision is not an option, or the patient does not want to undergo surgery, or when debulking is required prior to surgery, compression sclerotherapy, arterial embolization, radiotherapy, cryotherapy, or electrocoagulation can be effective treatments [5]. Surgery is only required when a symptom manifests, and the prognosis is favourable [3]. Complete surgical excision with distinct margins is the optimum treatment method, however each patient with IMH should be treated differently, taking into account tumour position, surgical ease of access, spread of the tumor, patient age, and cosmetic considerations [4].

Conclusion

Intramuscular hemangioma in the chest wall is rare, creating diagnostic challenges that require a high degree of suspicion. Complete surgical excision with adequate margins is recommended due to the high recurrence risk.

Declarations

Ethical Clearance

Taken

Conflict of Interest

None

Funding

None

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