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CASE REPORT

INTRAMUSCULAR CAVERNOUS HAEMANGIOMA OF TRICEPS MUSCLE

Mazharuddin Ali Khan*, Mir Jawad Zar Khan

Department of Orthopedics, Owaisi Hospital & Research Centre, Deccan College of Medical Sciences, Hyderabad 500058, Andhra Pradesh, INDIA

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****Corresponding Author***

Dr. Mazharuddin Ali Khan

Abstract

Intramuscular haemangiomas are a subset of vascular tumours of skeletal muscle. Haemangioma of the deep soft tissue are uncommon and more frequently present a diagnostic dilemma. Intramuscular haemangioma is most frequently located in the muscles of the lower extremities. We present a case of intramuscular haemangioma of triceps muscle of right arm in proximity of brachial vessels with compression on median nerve. Haemengioma was successfully excised after embolization procedure. Despite their vascular origin, haemangioma do not metastasize or undergo malignant transformation. Many treatment modalities for symptomatic hamemangiomas are available but surgical excision with or without embolization is the preferred treatment modality. Radiation therapy also can be used for recurrences**.**

INTRODUCTION

Haemangiomas are one of the most common soft tissue tumours comprising 7% of all benign tumours (Allan et al., 1972). Vascular malformations are often confused with haemangioma. The etiology is unknown. They are common in infancy and childhood. Females are more commonly affected than males (Allan et al., 1972; Mencke et al., 1982; Fergusson et al., 1972; Watson et al., 1940; Jones, 1953). These tumours can be superficial or deep, and deeply seated lesions are difficult to diagnose clinically and hence require radiographic assessment. Deep seated haemangioma are usually intramuscular, although intra-articular synovial haemangioma, intraneural haemangioma also can occur. The commonest anatomic site is the lower limb (Jones, 1953; Beham et al., 1991). Deeply situated haemangioma, principally intramuscular haemangiomas, account for less than 1% of all vascular tumours (Allan et al., 1972; Mencke et al., 1982; Fergusson et al., 1972; Watson et al., 1940; Jones, 1953; Beham et al., 1991). Clinically, deep haemangiomas often present as large, nonspecific masses, which may be confused with a variety of sarcomas. Commonly, deep haemangiomas contain a large component of benign fat and may be mistaken for fatty tumours. Despite their vascular origin, haemangiomas do not metastasize or undergo malignant transformation (Allan et al., 1972; Hassanein et al., 2011). They are diagnosed by physical examination, plain radiographs, Magnetic Resonance Imaging (MRI) and Doppler Ultrasound (Buetow et al., 1990).

CASE REPORT

A male patient (age: 25years) presented with a swelling on the posteriomedial aspect of right arm since one year associated with pain on exertion and muscular activity. The swelling gradually increased in size and the patient also developed numbness in the right forearm, thumb, index and middle fingers. On examination there was a 6 cm x 4 cm size swelling on the posteriomedial side of right arm. It was soft in consistency with lobulated surface and was compressible. The swelling had ill-defined margins and was not adherent to overlying skin. The swelling decreased

in size when patient was asked to raise his arm above shoulder. On distal neurological examination there was sensory loss on the distal volar surface of forearm and numbness of right thumb, index and middle fingers. The haematological and biochemical investigations were unremarkable. X-ray of right arm showed no involvement and erosion of underlying bone.

The MRI showed a oval T1 hypointense and T2 iso-hyperintense area in post-medial aspect of right arm in muscular plane posterior to brachial vessels with few small hypo intense areas in all sequences (calcification), measurement 55 x 28 x 23 mm, mass encased and displaced the brachial artery and the median nerve, no axillary lymphadenopathy was noted, imaging findings were suggestive of vascular lesion, haemangioma.

The Doppler ultrasound of right upper limb showed isolated mass of 55 x 28 x 23 mm in postmedial aspect of arm. The color Doppler showed rich blood flow in the mass and was present in close proximity to the brachial vessels.

The swelling was explored after embolization through posterior approach. The operative findings were a compressible mass deep to triceps muscles and attached to it. This was in close proximity to brachial vessels and median nerve. Both these structures were displaced and stretched on the lesion. It was a vascular lesion that had multiple feeding vessels. All the feeders to haemangioma were ligated and the haemangioma was dissected out of the surrounding structures including the triceps muscle. Haemosatsis was secured and the wound was closed and a suction drain placed. Post operative recovery was uneventful.

On Histopathological analysis mass contained fibro collagenous tissue with vascular channels of variable sizes lined by endothelial cells with scanty intervening stroma was observed. Findings were suggestive of Haemangioma.

DISCUSSION

The term “haemangioma” is commonly misused to describe any type of vascular abnormality; including vascular malformation (Hassanein et al., 2011).Venous malformation can occur in every muscle group with pain and swelling being the usual complaints. Vascular malformations are usually present at birth, grow proportionally with the child and never involute. They can be classified as arterial, arteriovenous, venous, capillary or lymphatic. Haemangiomas are distinguished by endothelial hyperplasia, multilaminated basement membrane formation beneath the endothelium and clinical history of rapid growth during infancy. Additionally intramuscular venous malformation can be distinguished from cavernous haemangioma as the former has no regression phase and certain MRI characteristics (see below). Histologically haemangiomas are classified based on the predominant type of vascular channels as follows (Hein et al., 2002).

1. Capillary haemangiomas which are composed of small vessels lined by flattened endothelium. It is the commonest type and subdivided into juvenile, verrucous and senile type.
2. Cavernous haemangiomas which are composed of dilated, blood filled spaces, lined by flattened endothelium. There is abundant adipose tissue and they do not involute as the capillary haemangioma.
3. Arteriovenous haemangiomas which is characterized by the presence of fetal capillary bed with abnormal communication of the arteries and veins.
4. Venous haemangioma which is composed of thick walled vessels containing muscle.

Intramuscular haemangiomas account for 0.8% of all haemangioma (Allan et al., 1972; Mencke et al., 1982; Fergusson et al., 1972; Watson et al., 1940; Jones, 1953). The latter occur most commonly in young adults with 80-90% presenting in individuals younger than 30 years (Allan et al., 1972; Mencke et al., 1982; Fergusson et al., 1972; Watson et al., 1940; Jones, 1953;). Clinically they manifest with a mass without any diagnostic features. Pain is a cardinal symptom which increases with muscular activity. Lower extremity is being the commonest site of involvement. Intramuscular haemangiomas progressively enlarge but never metastasize. There is 9% recurrence rate after surgical excision (Allan et al., 1972).

Soft tissue arteriovenous haemangiomas are benign vascular hamartomas characterized by the presence of arteriovenous shunts. Few cases of soft tissue haemangiomas have been found in the literature, and are frequently described as cutaneous lesions of the limb or of the scalp. There are reported cases of intramuscular haemangioma and haemangioma of antebrachial muscles in upper arm causing ulnar nerve compression and radial nerve compression (Pulidori et al., 2004; Patten et al., 2011). In our case median nerve was compressed by intramuscular haemangioma of triceps muscle.

Vascular malformations are composed of dysplastic vessels, that are present at birth and enlarges in proportion to the growth of the child. They do not regress spontaneously. Haemangiomas of deep soft tissues are rare. Soft tissues most often involved are liver, skeletal muscles and commonly lower limbs especially thigh

muscles, synovial lining, and peripheral nerves. In the lower extremity the quadriceps is the most frequently affected muscle (Christenson et al., 1985). They occur most commonly in young adults of less than 30years. The patient in our case report was of 25years age.

Figure 1: Preoperative view of swelling in the posteriormedial aspect of right arm

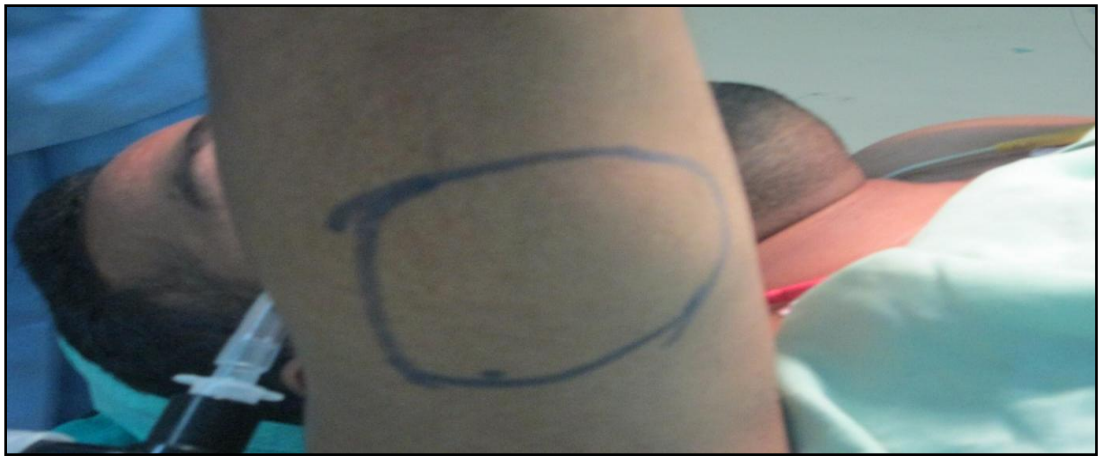


Figure 2: MRI right arm showing soft tissue swelling in relation to triceps muscle

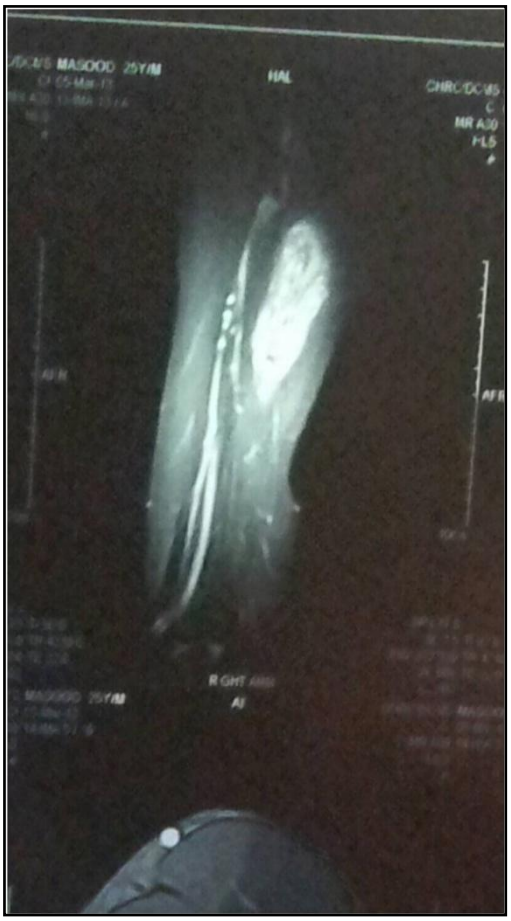


Figure 3: MRI showing soft tissue swelling in post-medial aspect of right arm

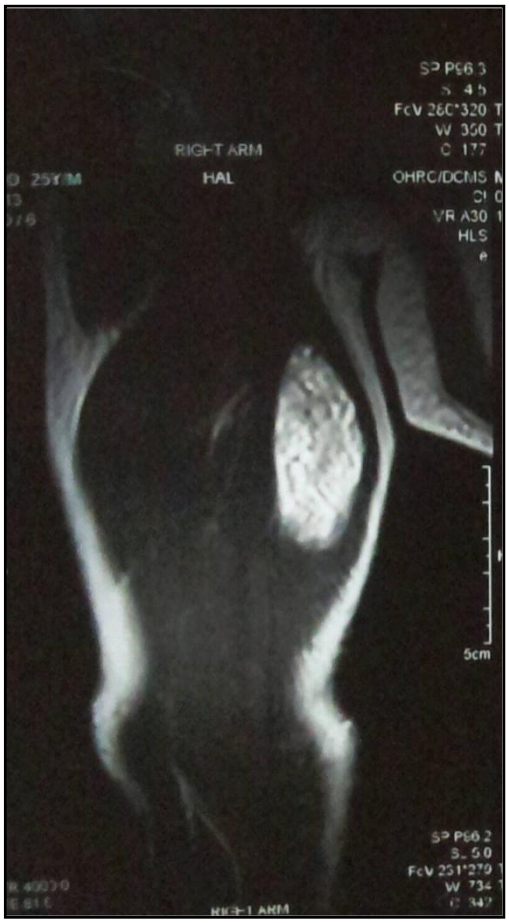
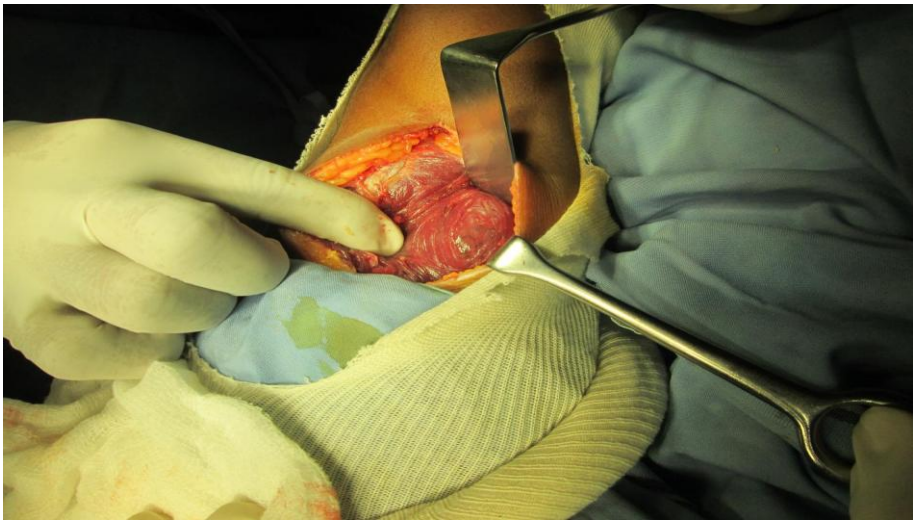


Figure 4: Intraoperative view of soft tissue compressible and vascular swelling in the post-medial aspect of arm



CONCLUSIONS

Intramuscular haemangiomas are rare and usually seen in young adults. They should be investigated properly by MRI, vascular Doppler studies. Surgery is must with or without embolization since they have tendency to grow and patient's quality of life in terms of his working capacity gets affected especially in patients who are in professions requiring physical exertion.

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Conflict of interest: None

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