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Intramuscular hemangioma of the masseter muscle- a case report and review of literature

Surej Kumar L.K. (MDS Senior consultant) (Dr.)[a], Nikhil M. Kurien (MDS Assistant surgeon) (Dr.)[a], Kannan Venugopal (Dr.)[a,*], Parvathi R. Nair (Dr.)[a], Vinod Mony (MDS) (Dr.)[b]

[a] Department of Oral and Maxillofacial Surgery, KIMS (Kerala Institute of Medical Sciences) Hospital, Trivandrum, Kerala, India
[b] Department of Oral and Maxillofacial Pathology, Trivandrum, Kerala, India

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ABSTRACT

INTRODUCTION: Intramuscular hemangioma, is a distinctive type of vascular tumor occurring within the skeletal muscle. Most IMH are located in the lower extremity, particularly in the muscles of the thigh and rarely in head and neck region.
PRESENTATION OF CASE: 35 years old male reported with a swelling in the left cheek region since 3 years. Clinical and radiological evaluation leads to the diagnosis of Intramuscular hemangioma. Surgical excision was performed and histopathology confirmed the diagnosis.
DISCUSSION: Hemangiomas of skeletal muscle represent 0.8% of all benign vascular neoplasm Welsch and Hengerer, 1980 [4]. Of these 13.8% occur in the head and neck region, with the masseter muscle being the most common site, followed by the trapezius and sternocleidomastoid muscles respectively. The lesions previously described as deep infiltrating angiolipomas have now been recognized by the WHO as intramuscular hemangiomas. numerous theories proposed for ethiopathogenisis of vascular lesions have been discussed.
CONCLUSION: In conclusion, angiolipomas are rare in the head and neck region, and it should be considered in the differential diagnosis of masses in these regions. Proper radiological and clinical examination will reveal the type of vascular lesion. Excellent results can be obtained with timely management and good surgical skills.

1. Introduction

Vascular lesions involving the skeletal musculature is an uncommon tumour characterized by the proliferation of blood vessels, occurring most frequently in the large muscles of the upper and lower extremities and trunk [1]. First described by Liston [2] in 1843, this benign vascular lesion accounts for less than 1% of all hemangiomas [3]. In the head and neck region, the masseter and trapezius muscles are most commonly involved [5]. In the former, they may mimic a parotid neoplasm [6]. The etiopathogenesis of these unusual lesions is not yet clearly understood, although trauma and abnormal sequestration of embryonic tissue have been postulated [5] because they frequently present in early childhood or early adult life. We report a case of intramuscular hemangioma lesion occurring in the cheek region.

2. Case report

A 35 years old male patient came to the Department of Oral and Maxillofacial Surgery complaining of a swelling in the left cheek region since 3 years. On clinical examination a smooth, oval swelling of size 2 × 3 cm diameter was noted in the left cheek region (Fig. 1). It was diffuse in nature, firm, soft which becomes prominent on clenching. On auscultation mild bruit was heard. On intraoral examination the buccal mucosa was found to be free from the swelling with no evidence of any discolouration. Radiographic investigation including MRI scan and Angiogram was done and it revealed an enhancing well circumscribed intramuscular mass (Fig. 2). Provisional diagnosis of a vascular lesion was made and differential diagnosis of other soft tissue lesions like lipoma, neurofibroma, pleomorphic adenoma was ruled out.

* Corresponding author.
E-mail addresses: surejkumarlk@gmail.com (S. Kumar L.K.), nikhilmkurien@gmail.com (N.M. Kurien), kannan7072003@gmail.com, drkannanomfs@gmail.com (K. Venugopal), parvathinai@gmail.com (P.R. Nair), drvinod_mony@yahoo.co.uk (V. Mony).

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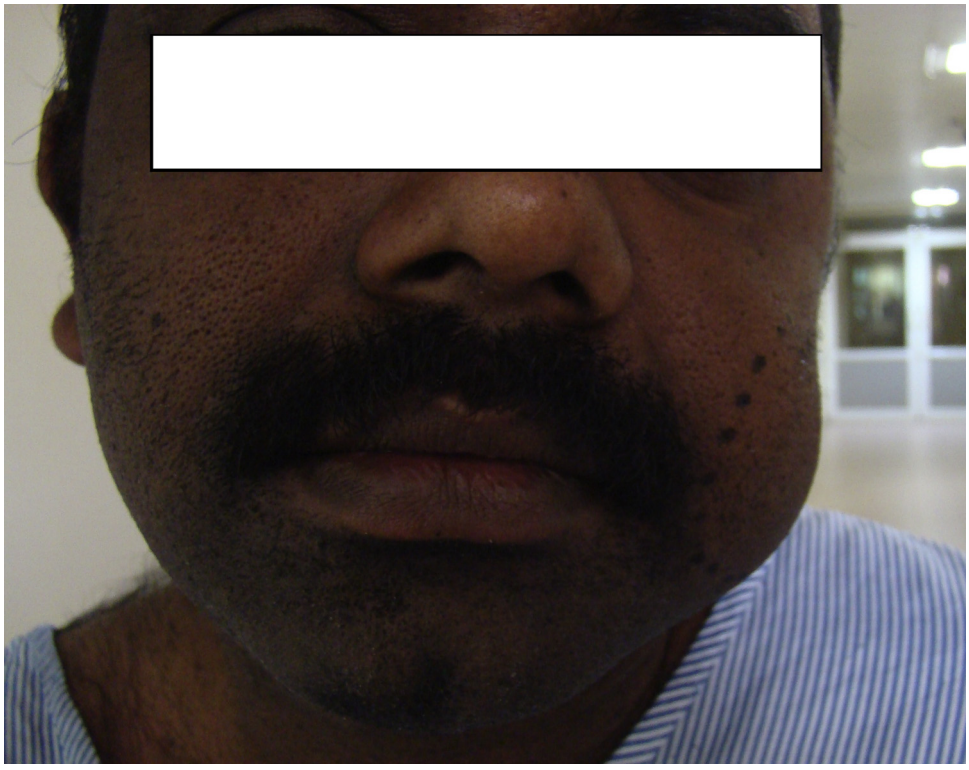

Fig. 1. Pre Operative.

2.1. Procedure

Surgical excision of the lesion was planned under GA. Submandibular incision was placed (Fig. 3). Skin flap were raised and lower border dissection was done through masseter muscle to expose the well encapsulated lesion (Fig. 4). Once lesion is exposed a blunt dissection was done around the lesion and cauterization was done for any bleeding vessels (Fig. 5). The whole lesion was removed in toto. On the specimen a glistening capsule was seen covering the whole vascular tumour (Fig. 6). The whole exposed specimen was send for histopathology (Fig. 7).

2.2. Histopathology

Histopathology reveals that given soft tissue section shows fibro vascular connective tissue exhibiting numerous large dilated thin walled as well as smaller thick walled vascular spaces filled with RBCs. Some of the larger vessels show fibrin thrombi and basophilic calcification. The intervening connective tissue stroma is densely collagenous comprising of dense collagen fibres with spindle fibroblast, fat cells and muscle tissue (Fig. 8). Focal hemosiderin pigmentation is noted (Fig. 9).

3. Discussion

Various misnomers have been mentioned for vascular lesions involving skeletal musculature. We find the term angiolipoma most suiting to the lesion found in our case as per clinical and imaging findings. Angiolipomas are rare benign mesenchymal tumours that are distinguished from lipomas by proliferating vessels [12] and are categorized as non-infiltrating angiolipoma and less frequent infiltrating angiolipomas. The lesions previously described as deep infiltrating angiolipomas have now been recognized by the WHO as intramuscular hemangiomas [13].

Hemangiomas of skeletal muscle represent 0.8% of all benign vascular neoplasm [4]. Of these 13.8% occur in the head and neck region, with the masseter muscle being the most common site, followed by the trapezius and sternocleidomastoid muscles respectively [1]. Other possible sites are periorbital muscle, temporalis muscle, geniohyoid and medial pterygoid. Studies show that intramuscular haemangioma mostly present before the age of 30 [4] but some studies report cases in elderly patients also. But in our case the patient is in his early thirties.

Although intramuscular hemangiomas have shown an equal sex distribution, involvement of the masseter has a definite male predominance [17].

Numerous classifications of vascular lesions exist in the English literature. Mulliken and Glowacki classified vascular lesions as vascular malformations and haemangiomas, based on their clinical appearance, histopathologic features and biologic behaviour [8]. Allen & Enzinger [9] classified them histologically as (1) capillary (vessels smaller than 140 micrometer in diameter), (2) cavernous (vessels larger than 140 micrometer in diameter) or (3) mixed (consisting of both small and large vessels). Capillary haemangioma usually presents with a short history [11]. They are highly cellular thus explain the firmness and lack of clinical signs to suggest its vascular nature. Cavernous haemangioma generally present with longer history of symptoms, tend to be larger in size and painful. They are most common in the lower extremity with only 19% occurring in the head and neck [3]. Mixed type is histologically and clinically similar to cavernous type. We find the latter classification most substantiating our clinical and histological findings.

Etiopathogenesis remains unclear although various theories have been proposed to explain its etiology. The most likely explanation is that the intramuscular hemangioma is a congenital mass,