

Intramuscular Cavernous Haemangioma of Masseter Muscle – A Case Report of Surgical Excision

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ABSTRACT

Intramuscular haemangioma are rare benign congenital neoplasm of proliferative vascular in nature due to increased endothelial cell turnover. Less than 20% of these are found in head and neck region. The masseter muscle accounts for 5% of all intramuscular haemangioma of head and neck region. They are non metastasizing tumours which may suddenly start growing in later stages. The present article will discuss the clinical presentation, diagnostic modalities and surgical treatment of cavernous Haemangioma involving masseter muscle in a 15-year-old young female patient in whom a surgical excision of whole lesion was done under general anaesthesia and no reoccurrence of the lesion was observed after one year of follow up.

Keywords: Cosmetic, Facial muscle, Surgical Intervention, Swelling, Vascular lesion

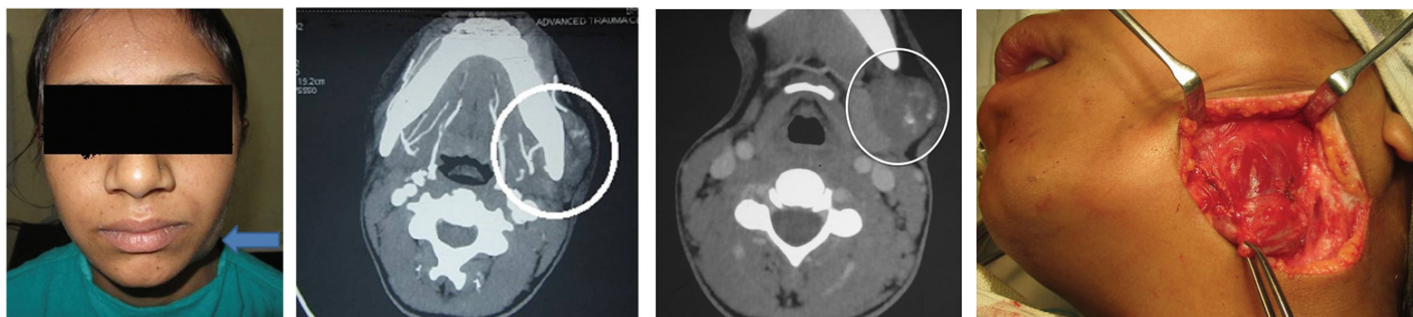
CASE REPORT

A 15-year-old female reported to us with the chief complaint of swelling over left angle of the mandible and submandibular region from past seven-eight months [Table/Fig-1]. Medical and family history of the patient was irrelevant. A swelling of size 3 x 2 x 2 cm extending slightly above the angle of mandible to submandibular gland region beneath the masseter muscle was noted. It was painless, non tender without any history of trauma to the region.

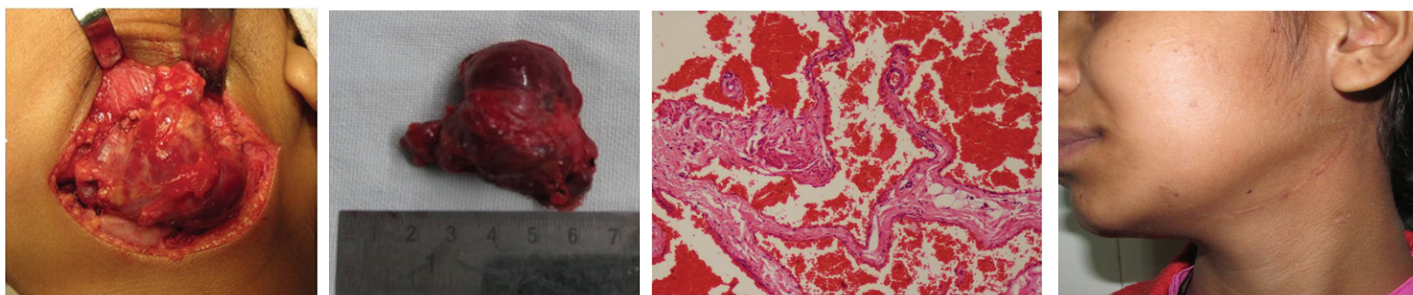
There was no carious tooth in the oral cavity and mouth opening of the patient was normal. Third molars were not present and no bony expansion of buccal as well as lingual plate was observed that confirmed it as a non odontogenic in nature. On palpation it was soft spongy, diffuse in nature without pulsations and definite margins. The size of swelling was reduced on pressure over it depicted as a vascular pathology. Swelling was non tender without rise in local temperature and no change in the texture and colour of the skin. Provisional diagnosis such as arteriovenous malformation,

haemangioma, lipoma, lymphangioma, lymphoma and salivary gland pathology was made. Fine needle aspiration cytology was advised that yields a fresh blood on aspiration confirmed a vascular lesion of high flow in nature. Angiography was done to see the feeding vessel, the size and extent of the lesion. It revealed a 3 x 2 x 2 cm lesion beneath the layers of masseter muscle around the angle of mandible with feeding vessel at submandible gland region [Table/Fig-2,3]. The lesion was easily accessible and surgical interventions were planned after discussion with patient and her guardians as they were not willing for long term sclerotherapy.

Under general anaesthesia using orotracheal intubation submandibular incision approximately 2.5 cm in length was given in the skin crease to minimise the scar visibility. Layer wise dissection of platysma was carried out to identified and retraction of marginal mandibular branch of facial nerve. Facial vessels were exposed and ligated to have large access [Table/Fig-4]. Careful blunt dissection was carried out around the lesion with adjacent muscle tissue and



[Table/Fig-1]: Soft tissue swelling on left mandible angle region on sitting position [Table/Fig-2]: CT angiography showing a soft tissue lesion in left masseter muscle [Table/Fig-3]: CT scan showing a lesion in the deep space [Table/Fig-4]: Bluish vascular lesion seen after dissection of masseter muscle



[Table/Fig-5]: Lesion in surgical site after excision from all sides [Table/Fig-6]: Specimen of vascular lesion [Table/Fig-7]: High power magnification (40 X) of stained section showing muscle fiber with cavernous luminal vessels [Table/Fig-8]: Minimal scar after six months of follow up

separated from salivary gland and its capsule without rupturing the lesion [Table/Fig-5]. Deep feeding vessel in submandibular gland region was exposed, clamped and ligated. The whole lesion was removed from its bed in toto without rupturing it [Table/Fig-6]. Tiny bleeders were cauterized and irrigation was done with normal saline. A corrugated rubber drain was placed to avoid the hematoma formation for next 24 h. Layer wise suturing was done and skin was sutured with 4-0 prolene as subcuticular technique to minimise scar formation. Pressure dressing was given. No immediate postoperative bleeding and paresthesia was observed. Specimen was sent for histo-pathological examination revealed cavernous spaces lined with endothelium and filled with red blood cells. Organised thrombi and the channels were surrounded by adipose tissue and skeletal muscle confirmed the diagnosis of intramuscular cavernous haemangioma [Table/Fig-7]. On follow up of up to six months now one year minimum scar was present without reoccurrence of the lesion [Table/Fig-8].

DISCUSSION

Haemangioma are most commonly seen in masseter muscle of head and neck region with overall skeletal muscle involvement is 1% of all benign vascular neoplasms. Intramuscular Haemangioma are believed to be benign, hamartomatous, congenital neoplasm that go undetected for long period of time until sudden growth give rise to pain or cosmetic deformity as in present case [1,2]. The characteristic of locally invasive tumour involves growth along planes of least resistance [3,4]. In present case the lesion gradually increased in size and involve the layer of masseter muscle. The etiology is not clear but congenital nature is supported by the fact that, it usually present in the first three decades of life [3] as in present case there was not any history of repeated trauma and hormonal supplementation in early age. The common findings in haemangioma is soft spongy in nature with pulsations or pain in the involved area [5]. In our case the patient noticed a swelling while on lying down position without any pain and pulsations. Its size was gradually increased and was diffuse and spongy in nature. Clinically it is difficult to distinguish it with salivary gland pathology, muscle hypertrophy, lymphangioma, lymphoma and schwannoma in this region. Fine needle aspiration cytology is also a non- conclusive as only it yields fresh blood on aspiration as in our case too. CT angiography and MRI has shown the extent and nature of tumour, its invasion and vessels involved up to greater extent [6]. As in this case the lesion was diagnosed as vascular in nature without any bony involvement in which a feeding vessel was involved in submandibular gland region in CT angiography. Sonography is

considered as a first-line imaging procedure for patients with soft tissue swellings [7,8]. Colour Doppler sonography is especially useful to demonstrate the vascular structures in and around the masseter muscle. The treatment of vascular lesion is individualised. Many modalities such as sclerotherapy, cryotherapy, steroids, radiation and embolization are reported in the literature depending upon its location, size, its growth rate, age of the patient, cosmetic and functional considerations [9]. But the treatment of choice is surgical excision of whole lesion with adjacent muscle as in our case the lesion was easily accessible through submandibular incision. It was removed with adjacent layers of muscle involved after ligation of feeding vessel in the submandibular region. Local recurrence rate of 9 to 28% has been reported even after wide excision [1,3,9]. Up to one year of follow up, no reoccurrence was reported in present case.

CONCLUSION

Cavernous haemangioma in soft tissue usually require treatment because of its impingement on soft tissue structures. If they are accessible, like in masseter muscle, they should be completely excised because they do not pose a severe bleeding potential. In the present case the lesion was accessible and whole of the lesion was excised with normal muscle tissue without any immediate and postoperative complications.

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