

Intramuscular Hemangioma of Masseter - A Rare Case Report with Diagnostic Challenge

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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. Most of these lesions present with pain and discomfort and some patients may demonstrate progressive enlargement. Due to their infrequency, deep location, and unfamiliar presentation, these lesions are seldom correctly diagnosed clinically. Our report is a clinically misdiagnosed case of a painful soft tissue mass in the left side masseteric region of a 25 year-old female patient, confirmed as intramuscular hemangioma based on imaging studies and histopathologic examination, treated by surgical excision with minimal masseter muscle handling .

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I. Case Presentation

A 25 year old female from Rajasthan presented with a swelling in the left cheek around parotid region of three months duration. She first noticed the swelling 10 years back .swelling was gradually increased in size from past 3 months and became more pronounced during mastication and while waking up in morning. There was pain over swelling since one week .She gave no history of trauma or oral contraceptive pill usage.

On physical examination there was a swelling in the region of the left side parotid and submandibular region measuring 4 x 2 cm. On palpation it was soft ,diffuse in nature without pulsations and definite margins. The size of swelling was slightly reduced on pressure. Swelling was non tender without rise in local temperature and no change in the texture and colour of the skin..overlying skin was normal. On clenching the masseter the swelling diminished in size. No palpable cervical lymphadenopathy were present .There was no facial nerve involvement and parotid duct orifice .

was normal. Provisional diagnosis such as arteriovenous malformation, haemangioma, lipoma, lymphangioma, lymphoma and salivary gland pathology was made
FNAC revealed only RBCs in cytospin .

CECT findings were followings :-

Diffuse enlargement of the left masseter muscle is seen in its lower half with ill-defined isodense mass showing heterogeneous nodular enhancement .it measures approx..4.5*2.7*4.3 cm (AP*TD*CC) in size. Few foci of chunky calcific nodular densities are seen in this mass .it is displacing the superficial lobe of parotid gland postero-inferiorly. No obvious infiltration into adjacent parotid gland & bone is seen .No evidence of abscess formation or abnormal density seen in the parotid gland .Few subcentimeter size nodes are seen in submandibular and parapharyngeal region on left side .these findings may be representing vascular malformation of left masseter muscle with foci of calcific nodular densities representing of intramuscular hemangioma with phleboliths. Surgical excision was planned with informed consent .

Under general anaesthesia using orotracheal intubation incision approximately 2.5 cm in length was given in the skin crease over swelling to minimise the scar visibility. Layer wise dissection of platysma was carried out to identified and branches of facial nerve . Facial vessels were exposed and ligated to have large access Careful blunt dissection was carried out around the lesion with adjacent muscle tissue and separated from salivary gland and its capsule without rupturing the lesion [Deep feeding vessel in submandibular gland region was exposed, clamped and ligated. The whole lesion was removed from its bed .Tiny bleeders were cauterized and irrigation was done with normal saline. A romo Vac suction drain was placed to avoid the hematoma formation for next 24 h. Layer wise suturing was done and skin was sutured as subcuticular technique to minimise scar formation. Pressure dressing was given. No immediate postoperative bleeding and paresthesia was observed. Specimen was send for histopathological examination.

II. Discussion

Hemangiomas of skeletal muscle represent 0.8% of all benign vascular neoplasm .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 . Intramuscular Hemangiomas [IMH] generally occur in the first three decades of life . Although intramuscular hemangiomas have shown an equal sex distribution, involvement of the masseter has a definite male predominance .Various theories have been proposed to explain its etiology. The congenital nature is supported by the fact that it usually presents in the first three decades of life . Others have suggested it arises from malformed tissue subjected to repeated trauma . Many have speculated a possible hormonal role on the growth of IMH as there was sudden increase in size noted on taking OC pills .

Allen & Enzinger classified them as large vessel [>140 mm in diameter] small vessel [<140 mm in diameter] and mixed vessel types . They correspond to cavernous, capillary, and mixed type respectively. This classification is useful and correlates well with clinical presentation and recurrence rates. The capillary type of hemangioma occurred more frequently in the head and neck region. The highly cellular nature of many capillary hemangiomas may explain the lack of clinical signs usually associated with vascular lesions, thus rendering pre-op diagnosis difficult. The cavernous and mixed types occurred more frequently in the trunk and lower limbs. The mixed type had the greatest tendency for local recurrence .

These tumours present as gradually enlarging mass lesions with duration often less than a year . Accurate preoperative diagnosis has been reported in less than 8% of cases in view of its intramuscular location and the overlying parotid. Bruits, thrills, compressibility are often absent unlike in other vascular malformations . The most common clinical presentation is a mass with associated pain symptoms in 50 to 60% of cases. There are usually no skin changes. Clenching the teeth could make the lesion to become more firm and fixed.

A variety of tumours can be confused clinically with an IMH. Most of them are often mistaken for salivary neoplasms & the differential diagnosis include cysts, lymphangiomas, rhabdomyosarcomas, masseteric hypertrophy, and schwannomas.

FNAC is inconclusive in arriving at a diagnosis as it yields only a bloody aspirate . Superselective arteriography with subtraction clearly defines the altered vascular pattern and flow dynamics including feeder vessels and also opens up therapeutic modalities. However it may fail to demonstrate low flow lesions adding to the diagnostic difficulty.

Though contrast CT may demonstrate the vascular nature of the tumour .MRI has shown superiority in the exquisite delineation and contrast of the lesion from it's surrounding due to its multiplanar capability.

The management of IMH should be individualized based on such factors as tumour location, age, depth of invasion, Cosmesis. Many treatment modalities like cryotherapy, radiation therapy, steroid administration and embolization have been advocated but the treatment of choice at present remains surgical excision .

III. Conclusion

Intramuscular haemangioma 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 without any immediate and postoperative complications.

IMAGES



1. Pre Op Pic (left side cheek swelling)

2. post Op Pic (A) and (B)



3. Post OP Pic



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