ORIGINAL RESEARCH PAPER

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KEY WORDS: Clavicle fractures, Conservative vs operative management, middle third and lateral third clavicle fracture, malunion.

Cavernous hemangioma of mandible: An unusual presentation

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Introduction

Hemangioma is a benign vasoformative neoplasm of endothelial origin. The origin of central hemangioma is debatable. Shira and Guernsey believe that it is a true benign neoplasm as a result of initial endothelial proliferation, which then differentiates into blood vessels. Others state that it is a hamartoma resulting from proliferation of mesoderm that undergoes endothelial differentiation and, subsequently, is canalized and vascularized. Intraosseous hemangioma is a quite rare condition, comprising <1% of all intraosseous tumors. It mainly occurs in the vertebral column and skull.[1] Mandible is a very infrequent location although possible. The female: male ratio is 2:1 and the peak of incidence is between the second and fifth decades of life. Usually, it is symptomless but may present with signs and symptoms such as a slow growing bluish mass, pulsatile sensation, deranged dentition, recurrent bleeding due to any trauma, mobile teeth, and discomfort in normal life.[2] Panoramic radiograph, computed tomography (CT) scan, magnetic resonance imaging (MRI), and CT angiography are the most useful radiological investigations. CT scan allows clear visualization of cortical involvement, while MRI and CT angiography shows blood flow from feeding vessel, if present, as well as the relationship with surrounding soft tissues.[3]

Central hemangiomas of bone arise from vessels within the marrow spaces and may comprise arterial and venous vessels. Central hemangioma is a great mimicker, as it resembles: (1) osteosarcoma; (2) fibrous dysplasia; (3) central giant cell granuloma; (4) ameloblastoma; (5) multiple myeloma; (6) dentigerous cyst; and (7) odontogenic cyst radiographically[4]. It also may clinically mimic: (1) a central arteriovenous fistula; (2) aneurysms; or (3) a shunt. Patients are at high risk of bleeding due to any traumatism or extraction attempt. Therefore, the patient's history, radiographs, and other investigations play an important role in making final diagnosis and treatment plan. In this article, a case of a patient diagnosed as a cavernous hemangioma of right mandibular body and treated at GCRI (Gujarat cancer & research institute) is reported[5].

CASE REPORT:

A 52 year-old male presented in outpatient department of GCRI (Gujarat Cancer & Research Institute, Ahmedabad) with pain and swelling on the right side of the face for last 6 months. No history of paresthesia, spontaneous bleeding, or epistaxis was given. A diffuse swelling and facial asymmetry were seen on the right side, intraoral examination showed a swelling located in the right mandibular body with soft consistency. Orthopantomogram showed presence of ill defined expansile lytic lesion involving right hemimandible with breach of alveolar margin at places and resorption of right last molar tooth. CT scan revealed presence of expansile lytic lesion involving angle and body of right hemimandible with septations within. There was associated soft tissue component with cortical breach at various places. Differential diagnosis included solitary bone cyst, ameloblastoma, myxoma, giant cell lesion, and bone hemangioma. Biopsy of lesion revealed possibility of odontogenic fibromyxoma. Patient was planned for surgery,subsequently right hemimandibulectomy and microvascular free fibular flap reconstruction was done. Final histopathological examination report shows presence of cavernous hemangioma involving right hemimandible. Patient was discharge in stable condition and postoperative period was uneventful. The patient has been on follow-up postsurgery till present, the wound has healed uneventfully.

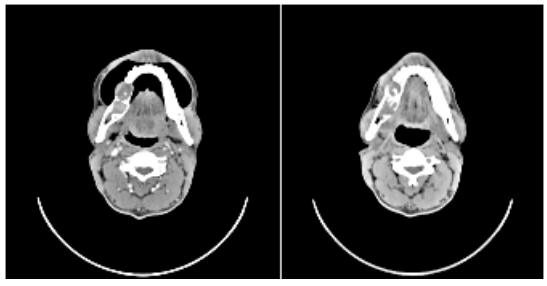

Figure 1: a&b CT images of cavernous hemangioma

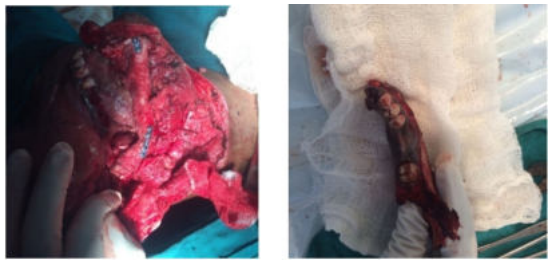

Fig 2 (a & b : intraoperative photographs)

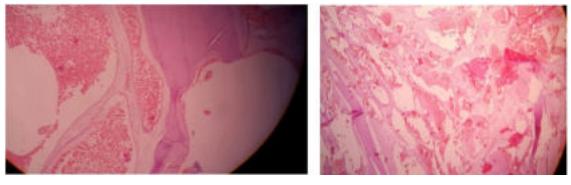

Fig 3 (a & b : histopathology images)

DISCUSSION

The most frequent location of hemangioma is the molar-premolar region.

Cavernous hemangiomas of bone is very rare, comprise of only 0.5 to 1 % of all intraosseous tumors. Amongst them mandible is a very rare location. Pathogenesis is still debatable and several theories are postulated. Some authors describe hemangiomas as congenital lesion, whereas others believe that the inferior dental

canal is the origin of the lesion, based on its widening in the majority of these patients[6]. There are two types of hemangioma: Peripheral and central. Peripheral hemangioma is originated in the periostic vessels that grow into the medullary bone, while central hemangioma is originated into the medullary bone and grow toward the cortical bone[7]. Histologically, hemangioma can be divided into three groups: Cavernous, is the most frequent one and is located into the mandible, others are, capillary and mixed. The initial diagnosis is usually complicated because of the absence of symptoms and the unspecific radiological findings. Radiographically, a differential diagnosis of ameloblastoma, cavernous hemangioma, giant cell lesion, cyst, and myxoma could be made due to the characteristic sunburst appearance. Clinical history, examination findings, radiographs, and scanning examination illustrates many features which show characteristic of central hemangioma[8]. The CT-scan allows clear visualization of cortical involvement, and is also useful to define the extension of the hemangioma and its relationship with surrounding soft tissues. The classical feature is the "polka-dot" appearance with cortical expansion,honeycombed appearance and periostic reaction are extremely rare presentations[9]. A CT angiography is needed to find out any feeding vessel. Preoperative arteriography is usually unnecessary because a vascular flow cannot be identified in the majority of the cases.[3] Nevertheless, it should be performed together with a presurgical embolization in big lesions to minimize the surgical bleeding.[4] Treatment is indicated only in some conditions: Esthetic disfigurement, repetitive bleeding, and palpable mass. Clinical observation is only indicated in two conditions: Asymptomatic patients or minimal facial deformity.[6] Treatment methods mentioned in the literature include:(1) noninvasive radiotherapy; (2) injection of sclerosing and embolizing agents; and (3) surgical intervention by (a) curettage and (b) radical resection with immediate osseous reconstruction. Surgical excision with reconstruction of mandible remains the preferred treatment. Prognosis after complete excision is excellent and recurrence is usually rare. Simple curettage may lead to an uncontrollable bleeding as well as an incomplete excision of the lesion. Radiotherapy can be used as treatment modality, but the retarding effects of radiation on oral and perioral tissues and its complications limits its use. Percutaneous embolization has been defended by several authors, although technical risks are greater than benefits obtained.

CONCLUSION

Central haemangiomas of mandible are rare lesions[5]. Diagnosis is difficult with an array of lesions that may appear clinically and radiographically similar. In cavernous hemangioma of bone, though, conventional radiographs give us adequate information regarding the extent and nature of the lesion, specialized radiographic techniques such as CT angiography would help in detecting the inner component of the lesion and identification of the feeder vessels if Present[7]. Because of the serious consequences, hemangiomas must always be considered in the differential diagnosis and proper precautions must be taken in establishing the final diagnosis before any surgical treatment is undertaken. The elective treatment should be a wide excision of the lesion including healthy surrounding bone, as well as ligature of the feeding vessels, if present.

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