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"Central Haemangioma of Body of Mandible- A Rare Case Report."

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Abstract: *Central haemangioma of the mandible and maxilla is extremely rare. Intraosseous haemangioma comprises less than one percent of all intraosseous tumours. Intraosseous vascular lesions of maxillofacial region are challenging to diagnose considering other jaw lesions. This article describes a case of central haemangioma of mandible with clinical, radiological and histological features which was treated with segmental resection of mandible.*

Keywords :*Central haemangioma, body of mandible, segmental resection,embolization, radiation*

I. Introduction

Hemangioma is a benign vasoformative neoplasm of endothelial origin.[1,2] It is characterized by proliferation of blood vessels. Its natural course includes a rapid postnatal growth followed by a slow spontaneous regression, which may take even several years.[2] It is usually located in soft tissues.[1] Intraosseous hemangioma is a quite rare condition, comprising less than 1% of all intraosseous tumors.[1,3] It mainly occurs in the vertebral column. Mandible is a very infrequent location although possible. The female:male ratio is 2:1 and the peak incidence is between the second and fifth decades of life.[1,3] Origin of central haemangioma is debatable. Some authors believe it is a true neoplasm, whereas others state it is a hamartoma resulting from proliferation of intraosseous mesodermal cells that undergo endothelial differentiation.[1] It is usually asymptomatic although may present signs and symptoms including a slow growing bluish mass, discomfort, pulsatile sensation and mobile teeth.[1,3] We present a case of central haemangioma of right side body of the mandible.

II. Case report

A 45 year old female patient reported to our department with chief complaint of throbbing pain in the lower right side molar region since last 10 months with no history of trauma. On examination, very slight facial asymmetry was apparent on right side of face. On extraoral palpation swelling was firm, nonpainful. Intra-oral examination revealed obliteration of right side buccal sulcus in premolar and molar region. On palpation firm swelling was felt in the right side body region of mandible extending from 43 to 47. Grade II mobility was noted in 45 and 46.

Panoramic radiograph showed unilocular lesion of about 6 cm x 3 cm with irregular margins and resorption of roots of 45 and 46.(Figure 1) Aspiration of the lesion showed frank blood. FNAC revealed a haematic material with no apparent cellularity. Angiography did not reveal any major feeding vessel. With clinical and radiological findings, diagnosis of central haemangioma was made. Considering the size and nature of lesion, segmental resection of mandible was done under general anaesthesia.(Figure 2) Reconstruction was done with reconstruction plate. Histopathological presentation of specimen was of central haemangioma.(Figure 3)

III. Discussion

Central haemangioma of the jaws is an uncommon lesion with debatable pathogenesis. Most frequent location of central haemangioma in mandible is premolar-molar region.[4] Our patient had lesion in right side premolar-molar region of the mandible. It has been reported that in central haemangioma of jaws there is no characteristic clinical sign, but the most common finding was a firm, nonpainful, bony swelling sometimes associated with a subjective pulsating sensation or throbbing discomfort.[5] Our patient had throbbing type pain in the premolar-molar region with firm bony swelling. The radiographic appearance is definitely not pathognomonic, and only a working diagnosis of central hemangioma of the bone can be made from radiographs as it simulates other numerous bony lesions.[6] Nearly any combination of lesion shape, location, or pattern can

develop. The periphery can either show a well-defined or ill-defined corticated area with scalloped margins. Unilocularity, multilocularity, and heterogeneous degree of radiolucency are commonly reported radiographic variations that are associated with a: (1) honeycomb; (2) sunburst; (3) soap bubble; or (4) tennis racket appearance.[7] Our patient had single unilocular well defined radiolucency of about 6 cm x 3 cm with irregular margins and resorption of roots of 45 and 46.

When deciding upon a treatment plan for central hemangioma, the practitioner's primary concerns are: (1) control of hemorrhage; (2) eradication of the lesion; and (3) prevention of reoccurrence. Treatment methods mentioned in the literature include: (1) noninvasive radiotherapy; (2) injection of sclerosing and embolizing agents; and (3) surgical intervention by curettage and radical resection with immediate osseous reconstruction.[8] Although most options have met with moderate success statistically, surgery has been the most favoured mode of treatment in spite of the hazards of hemorrhage and a certain degree of deformity through loss of dental and bony tissues.[8] Consideration must also be given to the position, extent, and clinical presentation of the lesion as well as the patient's age and medical history before treatment is initiated.

Radiation therapy is often chosen for treatment when it is decided that the lesion is inaccessible or that surgical intervention would be too mutilating. Large extensive lesions have also been treated solely and successfully with intralesional injections of sclerosing agents.[3] Various materials, including boiling water, sodium morrhuate, and sodium tetradecylsulfate, have achieved widespread use because they are both tissue irritants and thrombogenic agents. The success of sclerosing agents is, however, restricted to superficial soft tissues, and their value in treating intraosseous lesions is doubtful.[3] Surgery, either alone or in combination with embolization, remains the treatment of choice for central hemangioma.[2] The exact nature and extent of the surgical procedure employed depends upon the: (1) age; (2) medical history of the patient; and (2) lesion's clinical aspect.[2] La Dow et al considered block resection with immediate bone graft reconstruction (from the iliac crest) the most effective and safest form of treatment.[9] They suggested that the borders of resection should go through uninvolved surrounding tissue to avoid manipulation of the lesion and to lessen the prospect of operative hemorrhage.The present case illustrates many features that are characteristic of central hemangioma, including the patient's: (1) clinical history; (2) findings of examination; (3) radiographic examination; (4) histopathological picture. The mandible was resected beyond the lesion's radiographic boundaries to avoid any manipulation of the vascular lesion and to prevent any complications, such as extensive hemorrhage. The histology of hemangioma is diagnostic. The microscopic picture is that of a proliferating mass of endothelial cells forming a plexiform arrangement of vascular spaces, which are either: (1) capillary; (2) cavernous; or (3) mixed. The thin-walled cavernous spaces are lined by a single layer of endothelial cells interspersed among bony trabaculae. The capillary type demonstrates fine capillary loops that tend to radiate outwards.[10]

IV. Conclusion

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.

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Figures:

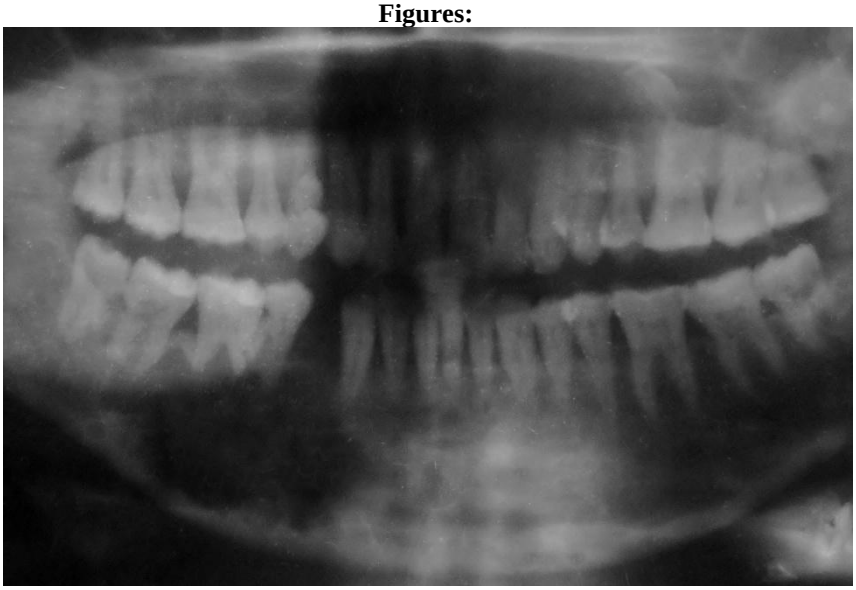

Figure 1-Panoramic radiograph showing unilocular lesion

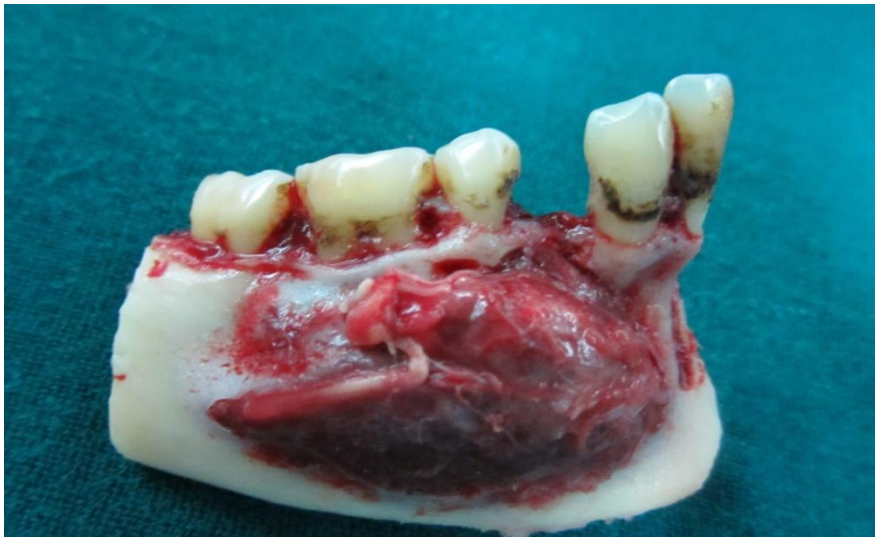

Figure 2- Segmental resection of mandible and specimen

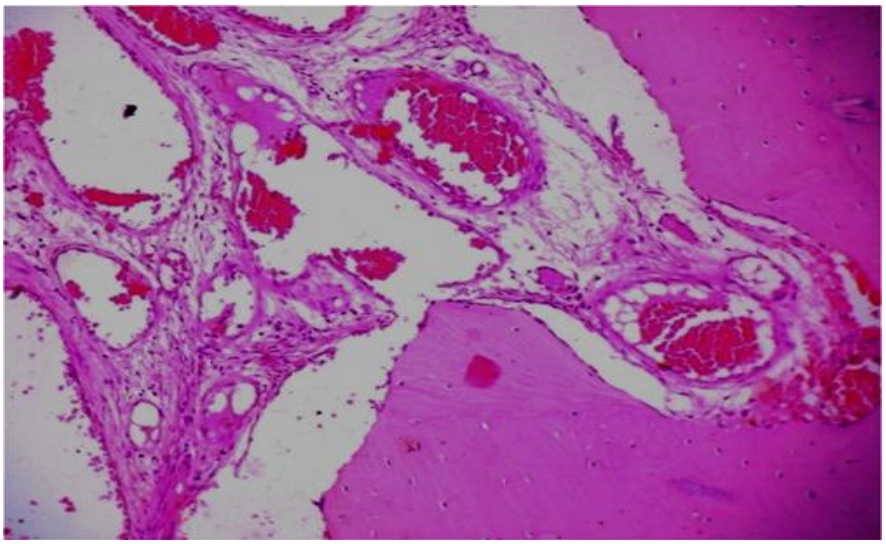

Figure 3- Histopathological presentation ofcentral haemangioma