

Rare Cystic Form of a Mandibular Hemangioma

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Received: May 02, 2018; **Published:** June 26, 2018

Abstract

Cavernous hemangioma is a rare bone tumor, the preferential localization is cranial and vertebral. The mandibular localization is estimated at 0.5 - 1%.

This tumor is seen at the young subject with male predilection (2:1).

His etiopathogeny remains unknown.

World Health Organization considers it as a true benign neoplasm of vascular origin

The symptomatology is often discreet and diagnosis is late at the stage of the facial asymmetry.

Orthopantomogram, computed tomography and magnetic resonance imaging are essential for establishing a diagnosis.

Several treatments were offered but the treatment of choice remains the surgery with embolisation.

We report the original case of a mandibular location at a 50 year-old patient and we offer to discuss the different clinical paraclinical and therapeutics aspects of this pathology.

Keywords: *Cavernous; Hemangioma; Mandible; Swelling*

Introduction

Cavernous hemangioma is a rare bone tumor, the preferential localization is cranial and vertebral. The mandibular localization is estimated at 0.5 - 1%. These are relatively rare in jaw bones as compared to vertebral column and skull bones.

In mandible, the body region is mostly affected, whereas some condylar tumors have also been reported [4]. Sex predilection is 2:1 (female: male) with a peak incidence between the second and fifth decade of life [4]. His etiopathogeny remains unknown.

The symptomatology is often discreet and diagnosis is late at the stage of the facial asymmetry. Orthopantomogram, computed tomography and magnetic resonance imaging are essential for establishing a diagnosis. The diagnosis of the hemangioma is difficult.

Differential diagnosis arises with ameloblastoma, odontogenic myxoma, fibrous dysplasia, and aneurysmal bone cyst. In this article we report a rare presentation of cavernous hemangioma of right body of mandible and we offer to discuss the different clinical paraclinical and therapeutics aspects of this pathology.

Case Report

50-year-old patient, with no particular pathological history, who has been hospitalized for progressive jugal swelling for 4 months, increasing progressive volume without pain or hypo-aesthetics.

Extra oral examination objectified an asymmetry of the right side. The swelling measures approximately 5 cm/4 cm diffuse hard occupying the body of the mandible and extending to the mandibular ramus (Figure 1).

Endo-oral examination found a toothless patient with normal mouth opening, and diffuse hard swelling that obliterated the oral vestibule without trill at palpation (Figure 1).

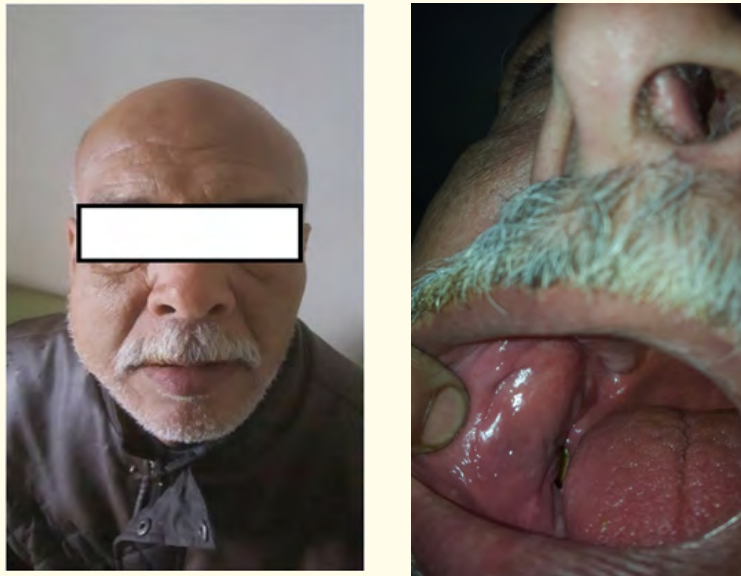


Figure 1: Right jugular swelling.

A CT scan of the face which objectified a cystic formation occupying the right mandibular body as well as the mandibular ramus with blowing of the cortex (Figure 2).

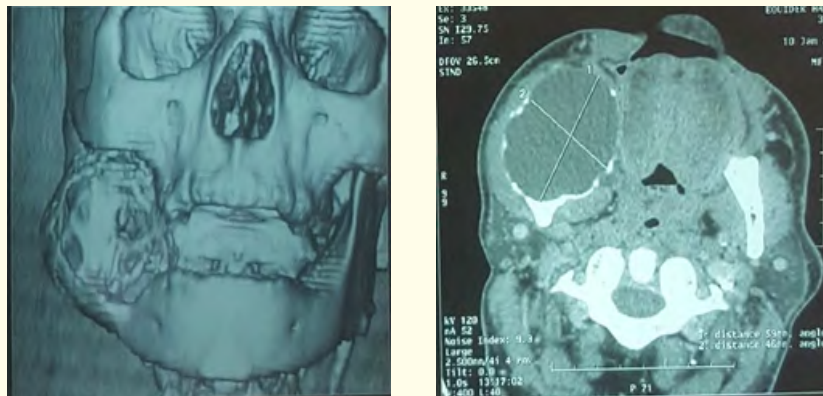


Figure 2: CT scan of the face which objectified a cystic formation occupying the right mandibular body with blowing of the cortex.

The patient initially benefited from a biopsy under local anesthesia, which was able to empty the cyst and provide the diagnosis of a mandibular cavernous hemangioma, and then the patient was operated by a right vestibular approach with excision of the tumor. The reconstruction was made by a maxi-plate of 7 cm. Operative follow-up was simple. Pathological examination confirmed the diagnosis. After 1 year of monitoring the patient is well.

Discussion

Hemangioma is a rare tumor that is characterized by a proliferation of blood vessels. It represents 0.2% of bone tumors, most often in the spine, skull bone and rarely in the mandible [1].

Other localizations have been reported in the bones of the nose [2] and the frontal bone [3] can be seen in both men and women [4].

Clinical features

Mostly asymptomatic and may take months for the symptoms to appear as firm, painless bone swelling that may be minimal or cause facial asymmetry, sometimes associated with trill upon palpation [4].

Pain and paresthesia are not characteristic but may be associated with swelling. The endobuccal examination reveals a vestibular filling with sometimes a mobility and displacement of the teeth.

Rash, premature exfoliation of primary teeth, and early eruption of permanent teeth have also been reported [4].

Radiographic characteristics

Cavernous hemangioma simulates many other lesions of the jaw, a definite diagnosis is difficult [4]. The radiological aspect is variable, the cystic aspect is rarely found [1].

In half of the cases it is a multilocular appearance aspect said soap bubbles or honeycomb. It may also have the appearance of radiolucent lesion rounded with bony trabeculae radiating from the center to the periphery [1].

Due to this highly variable radiographic picture differential diagnosis of cavernous hemangioma may include - (1) ameloblastoma, (2) giant cell lesion, (3) myxoma, (4) dentigerous cyst, (5) fibrous dysplasia, (6) osteosarcoma, (7) aneurismal bone cyst, and (8) granuloma [4].

When there is suspicion of hemangioma in the clinic and imaging, angiography is performed and detects the arterial connections of the tumor.

Histopathological examination

On the basis of histology, the hemangioma has been classified into: capillary, cavernous and mixed variant [4,9].

Endothelial cells proliferate and form a plexiform pattern of the vascular space. The thin-walled cavernous spaces are covered with a single layer of endothelial cells inserted between the bony trabeculae. Hitzrot describes the development of hemangioma in three stages: 1. Early: Very vascular, 2- Intermediate: Presents blood coagulation, and 3- Terminal: Various stages of ossification [4,10].

Treatment modalities

Various treatment modalities for cavernous hemangioma have been described in literature based upon: hemorrhage control, complete eradication of the lesion, and prevent recurrence [4].

These include: noninvasive radiotherapy, intralesional injection of sclerosing agents and embolization, curettage and radiation, and resection followed by osseous reconstruction.

Treatment should be based upon clinical findings, patient's age, and medical history.

Radiation is given for inaccessible lesions. According to Jaffe, growth of lesion may be controlled by radiotherapy, but osseous deformity can only be corrected by surgery [4,11].

Macnash and Owen, have reported cases which treated successfully by radiation alone (500R - 3300R) [12]. Wilde., et al. described cavernous hemangioma as radioresistant, and associated complications with radiotherapy are damage to condylar growth, developing teeth and salivary glands [4,13]. Intralesional injection of sclerosing agents such as boiling water, sodium morrhuate, and sodium tetradecyl sulfate have been tried for extensive lesions [4].

Embolization of major afferent vessels feeding cavernous hemangioma is also treatment when the patient is not an ideal candidate for surgery [4,14].

Surgery alone or in combination with embolization still remains the best treatment option for cavernous hemangioma. Conservative surgical methods include aspiration of intraosseous lesion [4]. The size of the lesion reduces due to a reduction in vascularity, fibrosis, and reossification [4].

Surgery includes either curettage or radical excision of a segment of jaw followed by immediate bone graft reconstruction. In curettage, buccal plate is osteotomized and hemorrhagic tissue [4] is removed while preserving the continuity of the jaw. Block resection followed by immediate iliac crest reconstruction is the most effective and safest treatment modality as suggested by Ladow and Mcfall [4,15].

Conclusion

Mandibular hemangioma is a rare bone tumor, with poorly understood etiopathogeny and complex clinical and radiological presentation. The histopathological examination is the key diagnostic. The treatment modality should be carefully planned according to the age of the patient, the clinical features, the extent of the lesion and the systemic medical condition.

Informed Consent

The patient gave us informed consent for publication.

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Volume 17 Issue 7 July 2018

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