**Central Hemangioma**  
By Keisha Fraser  
Oral Pathology 2017  
Section: Tuesday AM

**Overview**

A central hemangioma is a destructive bone lesion. Osseous lesion occurrences are rare, but central hemangiomas are considered one of the most common benign congenital lesions. They mostly occur in other regions of the body with presence in the mandible being quite rare. The central hemangioma of the jaw is so rare that there are very few reported cases. The lesion is accompanied by a proliferation of blood vessels [2][3][4].

**Etiology**

There is presently no known cause of these lesions. There has however been debate about possible causes of these lesions. Some believe that the lesion can be caused by a proliferation of mesoderm cells that underwent endothelial differentiation, while others believe that it is a true benign neoplasm [4].

**Clinical Presentation**

Clinically these lesions are hard, slow growing, asymptomatic masses. The patient may have some discomfort, a pulsating painful feeling in the teeth of the affected area, bleeding, mobile teeth, bluish discolorations, derangement of the arch form or accelerated dental exfoliation, and agenesis of teeth [2]. Highly expansile lesions cause a sensation of pulsation, audible bruits on extension into the soft tissue, and blanching on pressure. Occasionally patients have paresthesia in the region of the lesion [3]. Patients may also present with blood oozing around the teeth with seemingly no cause.

**Demographic**

There is a predilection for women (2:1 ratio) [4]. The lesions can either be present at birth or grow shortly after birth and are most notable in women between the ages of 20-30 years of age [1].

**Biopsy / Histology / Radiographs**

Biopsies are not recommended for these lesions since they are highly vascular. A procedure such as a biopsy can cause hemorrhaging and in some cases the hemorrhage can be fatal. Histologically we can expect to see numerous capillaries and larger vessels (cavernous) filled with red blood cells. The connective tissue present maybe made of collagen fibers. The trabeculae of bone could be lined with osteoblast, with osteocytes present in the lacunae [3] Radiographically it has various manifestations. The lesions can be multilocular or unilocular. The can appear finely trabeculated radiolucent pattern. It can also have a ground glass appearance, as well as a sunburst appearance [4].

**Differential Diagnosis**

Radiographic differential diagnosis includes ameoloblastoma, cavernous hemangioma, osteosarcoma, fibrous dysplasia, central giant cell granuloma, ameloblastoma, odontogenic myxoma (sunburst characteristic), multiple myeloma, dentigerous cyst and aneurysmal bone cyst [2] [4].

**Treatment**

The most popular treatment option is surgical excision. The blood flow must be stemmed, also known as arterial embolisation, before the surgical procedure [1]. If not the patient can have execessive unnecessary blood loss. Following the excision the patient will more than likely need a bone graft to reconstruct the bone. There are other less common, yet plausible treatment options. Radiotherapy, not to be used for young patients because of the effect radiation can have on the oral and perioral tissues, can reduce the volume of the tumor [2][3].

**Prognosis**

With treatment, if done correctly, there is no chance for recurrence. Unless the lesion is very large, interfering with daily life (esthetics), or interfering with normal bodily function treatment is avoided being that excessive bleeding is the most hazardous complication [3]. The lesion would have to just be monitored for the remainder of the patients lifespan if the best option is no invasive treatment.

**Professional Relevance**

It is more than likely the Hygienist will notice the lesion or any further expansion of the lesion following a through head and neck exam being that we interact with the patient more frequently than the Dentist. Dental Hygienist have to be aware of the clinical and radiographic features to be able to diagnose and describe the lesion properly to the Dentist. If the Hygienist misses the lesion, the Dentist may not have the time and indepth look as Hygienist do, the lesions may go unnoticed therefore causing it to become detrimental to the patient. Hygienists also need to be made aware that scaling around the tooth is not an issue.

**Bibliography**

Bowers, C. *Bone Tumors*. New York City College of Technology: Dental Hygiene Department. Oral Pathology. October 2017. <https://openlab.citytech.cuny.edu/oralpath2017/files/2017/10/Bone-Tumors-2017.pdf>

Chetan, B I, et al. “Diagnostic and Surgical Aspects of Central Hemangioma of Mandible: A Surgical Approach for the Reconstruction of Mandible.” *Journal of International Oral Health : JIOH*, Dentmedpub Research and Printing Co, 7 Jan. 2015, [www.ncbi.nlm.nih.gov/pmc/articles/PMC4336663/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4336663/).

Jain, Sandeep, et al. *Central Hemangioma: A Case Report and Review of Literature*. Journal of Indian Society of Periodontics and Preventive Dentistry, 2016, [www.jisppd.com/article.asp?issn=0970-4388;year=2016;volume=34;issue=1;spage=87;epage=91;aulast=Jain](http://www.jisppd.com/article.asp?issn=0970-4388;year=2016;volume=34;issue=1;spage=87;epage=91;aulast=Jain).

Jindal, Sanjeev Kumar, et al. “Role of Radiology in Central Hemangioma of Jaws.” *Oral Medicine and Pathology*, vol. 2, no. 2, 2010, pp. 76–78., doi:http://www.medicinaoral.com/odo/volumenes/v2i2/jcedv2i2p76.pdf.