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Central Hemangioma

Overview

Central Hemangiomas are benign tumors defined by the abnormal growth of blood vessels in a specific area that causes the bone to be destroyed. This form of oral pathology is a rare condition that can affect the maxilla and mandible (Dhiman, et al, 2015). The intra-bony lesion may be difficult to distinguish from its skeletal and soft tissue from their clinical manifestation, which is generally easily diagnosed. A generic clinical and radiological appearance would be required to accurately diagnose this lesion as multiple pathologies may resemble a central hemangioma. While other treatments have been explored, surgery has been employed most commonly.

Etiology

Central Hemangiomas can be present at birth or develop during childhood. However, not all hemangiomas are present at birth because they can grow over time as people age. Studies indicate that it is unclear and controversial what exactly causes a central hemangioma to develop (Chetan, et al, 2015).

Clinical Presentation

Central Hemangiomas may present asymptomatic and it can range from a couple of weeks to months before symptoms present themselves. When symptoms occur, the individual may feel radiating pain near the ear, temporomandibular joint, or even near the mandibular

condyle. This lesion will manifest as a firm, painless bone swelling that might be minor or severe, causing gross facial asymmetry and sometimes pulsation. Pain and paresthesia are not typical symptoms, however, they may be linked with edema. When observed intraorally, a common observation may include tooth displacement and bleeding around the teeth. Root resorption occurs on occasion. Supra eruption, premature primary tooth exfoliation, and early permanent tooth eruption could occur and have been researched.

Demographic

Central Hemangiomas can occur at any age but are typically seen in those who are in their younger teens. The most common time this lesion can develop is during infancy, childhood, and those who are younger than 30 years of age (Tang, et al, 2021). Regarding sex, male and female occurrence are equal but more seen in females.

Biopsy / Histology / Radiographs

A biopsy is only advised if there is ambiguity due to clinical signs that are similar to other diseases that may appear similarly. Tissue removal from the area to be evaluated, on the other hand, is thought to cause harm and potential bleeding and should be avoided. An angiography, rather than a biopsy, has been identified as an efficient diagnostic method for determining the presence of a hemangioma. It can also avoid hemorrhage by aspirating the lesion and identifying its contents.

The histology of a central hemangioma is distinctive. When looking at a microscopic image, you will find a proliferating mass of endothelial cells forming a net-like structure with vascularity voids that can be capillary, cavernous, or mixed. The following qualities distinguish each space: A cavernous (deep) cavity is characterized by a thin wall lined by a single layer of endothelial cells dispersed throughout the bony trabeculae whereas a capillary (superficial)

cavity might radiate outwardly in a sunburst pattern. A hemangioma develops in three stages: an early stage in which the lesion is evaluated as extremely vascular, an intermediate stage in which a blood clot within cystic areas is present, and a final stage in which ossification is present.

The radiological appearance includes an abnormal multi-locular radiolucency that can be difficult to determine and diagnose. There may be well-defined or ill-defined corticated regions with scalloped margins in this radiological appearance (Balan, Preethi; Gogineni, et al, 2014). As previously stated, this lesion has a sunburst pattern, and because of this, it may be misdiagnosed because other conditions, such as osteosarcoma, might have a similar appearance.

Differential Diagnosis

Some differential diagnoses that a central hemangioma can be seen similar to would be the following: ameloblastoma, giant cell lesion, myxoma, dentigerous cyst, osteosarcoma, fibrous dysplasia, multiple myeloma, aneurysmal bone cyst, and simple dental granuloma (Hatch, 2021).

Treatment

To treat a central hemangioma, you must be conscious of the following issues: hemorrhaging management, lesion eradication, and recurrence prevention. Noninvasive radiation, injection of sclerosing and embolizing substances, and surgical intervention by curettage and radical resection with immediate osseous repair are some of the approaches that have been studied and mentioned (Savvidou, 2022). However, the most favored treatment for this lesion would be a surgical procedure. You would perform fine needle aspiration before extraction to avoid trauma, or you may cut off the blood supply before extracting the tooth.

Prognosis

If an individual with a central hemangioma does not treat the lesion, they could have constant pain and bleeding around the surrounding area. The lesion could intrude with consumption or breathing if it isn't treated. Some hemangiomas can become exceedingly big and ulcerated. Sepsis and cosmetic problems may result from ulceration. Delaying treatment while waiting for spontaneous involution may result in major complications. If a person with central hemangioma undergoes surgery to address the area, they may experience recurrence, but they will benefit from fewer problems.

Professional Relevance

It is crucial to comprehend and be aware of any pathology to either alert the patient or stop any potential incidents from happening. As a hygienist, we can provide information and alert the patient of any pathologies that may be seen via an extra-oral and intra-oral examination. In this case, we would like to advise the patient about central hemangioma and preventative measures. As mentioned before, this type of lesion is somewhat frequent in youths, and often parents are unaware of its nature and may presume the worst, such as cancer. We wish to inform and reassure the parents that this lesion is benign and can be surgically treated. We should also know the clinical appearance of a central hemangioma and, if necessary, inform the dentist to do a biopsy to confirm the tumor if it is difficult to diagnose.

References

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