

Central Hemangioma

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Section: Thursday PM

Overview

Central hemangiomas are intraosseous or, within the bone, benign neoplasms of vascular origin. The word hemangioma is derived from the Greek and broken down means “blood, vessel, tumor”. They are rare occurrences within the maxilla or mandible and are often found within the spinal column and skull. Clinically, symptoms of central hemangiomas within the mandible or maxilla present as painless round bony swelling that is blueish in color and can cause pulsating and mobile teeth in the adjacent areas.

Etiology

Hemangiomas are found to be congenial in origin, benign neoplasms occurring from hypervascularization of epithelial cells within the bone. There is conflicting research on whether hemangiomas are true neoplasms or are hamartomas, which are benign growths originating from an abnormal mixture of cells and tissues that normally grow in the area. Intraosseous hemangiomas of the maxilla or mandible are rare conditions that can be of the cavernous type, or large blood vessels, or capillary type. These endothelial tumors grow quickly, regress slowly, and don't reoccur.

Clinical Presentation

Central hemangiomas are typically asymptomatic, but show gradual growth of a firm blueish mass within the bone that may cause facial asymmetry. Patients may experience pulsatile sensation, bony expansion, mobile teeth, bloody discharge, and sometimes discomfort.

Demographic

There is a 2:1 female predilection with occurrence in the second decade of life.

Biopsy / Histology / Radiographs

A multilocular radiolucency presents in 50% of cases. Central hemangiomas have a hallmark sunburst or sunray appearance with a round radiolucent outline and ray-like projections. They are known to mimic other conditions based on their radiographic presentation with multilocular or honey comb patterns as well. Radiographs may show root resorption of adjacent teeth.

Histologically, hemangiomas can be classified as peripheral type, which arise from the periosteum, or central/intraosseous type from the central spongiosa. In a case report, microscopic examination showed a number of small capillaries and dilated blood vessels filled with red blood cells lined with flattened endothelial cells. The diagnosis of central capillary hemangioma was confirmed upon examination of the specimen and the trabeculae of the bone was lined by osteoblasts and osteocytes in the lacunae.

discuss what type of biopsy you take (if any)

Differential Diagnosis

Central hemangiomas have similar radiographic features as ameloblastomas, odontogenic myxomas, fibrous dysplasias, osteosarcomas, and aneurysmal bone cysts; they have multilocular radiolucencies with honeycomb or sunray patterns. Ameloblastomas and central giant cell granulomas are ruled out if, radiographically, there are sunray patterns in the bone. Central hemangiomas mimic fibrous dysplasia and adenomatoid odontogenic tumors in features such as age of the patient, site, and recurrent nature of swelling. Features of central hemangiomas are differentiated by radiographs. It is similar to an aneurysmal bone cyst as they are slow growing, but aneurysmal bone cysts do not resorb the roots of adjacent teeth.

Treatment

Treatment of central hemangioma is contingent on the size and location of the lesion, and the age of the patient. Treatment options include steroid therapy, irradiation, surgical excision with or without ligation of vessels, laser therapy, or bone graft.

Prognosis

Treatment may cause uncontrolled bleeding
discuss the prognosis both with and without treatment

Professional Relevance

explain why this disease/lesion is relevant to you as a Dental Hygienist

Citations

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