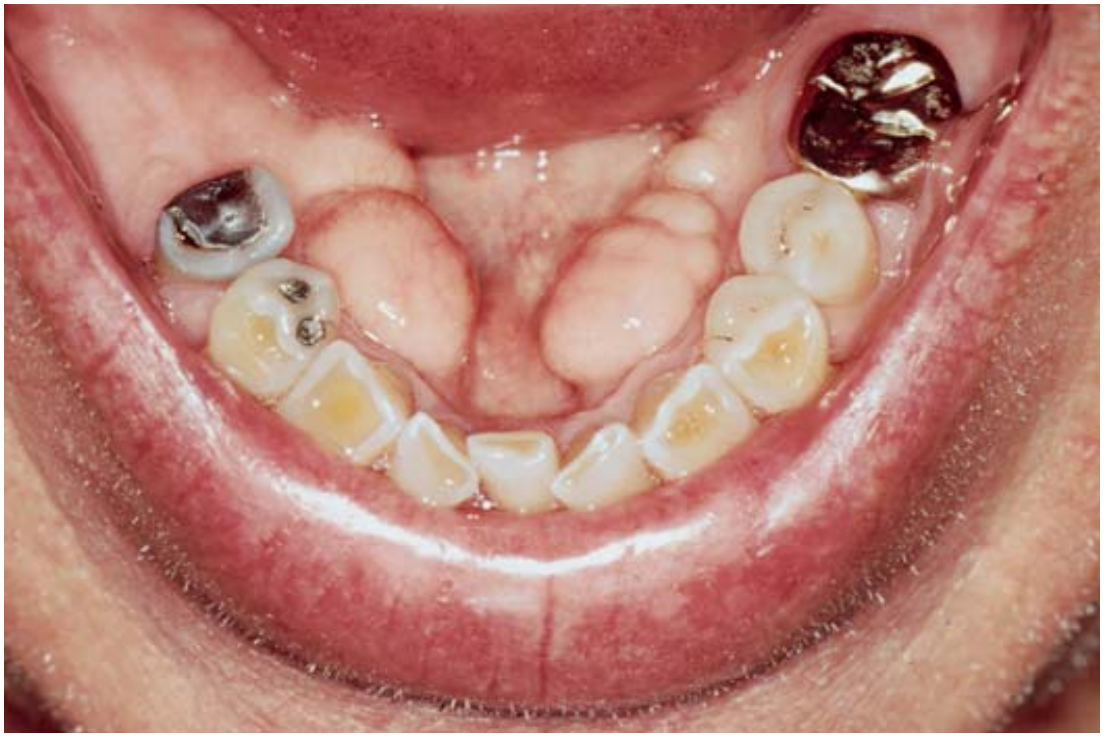
What Is Your Diagnosis?



This patient complains of hard masses on the floor of his mouth.

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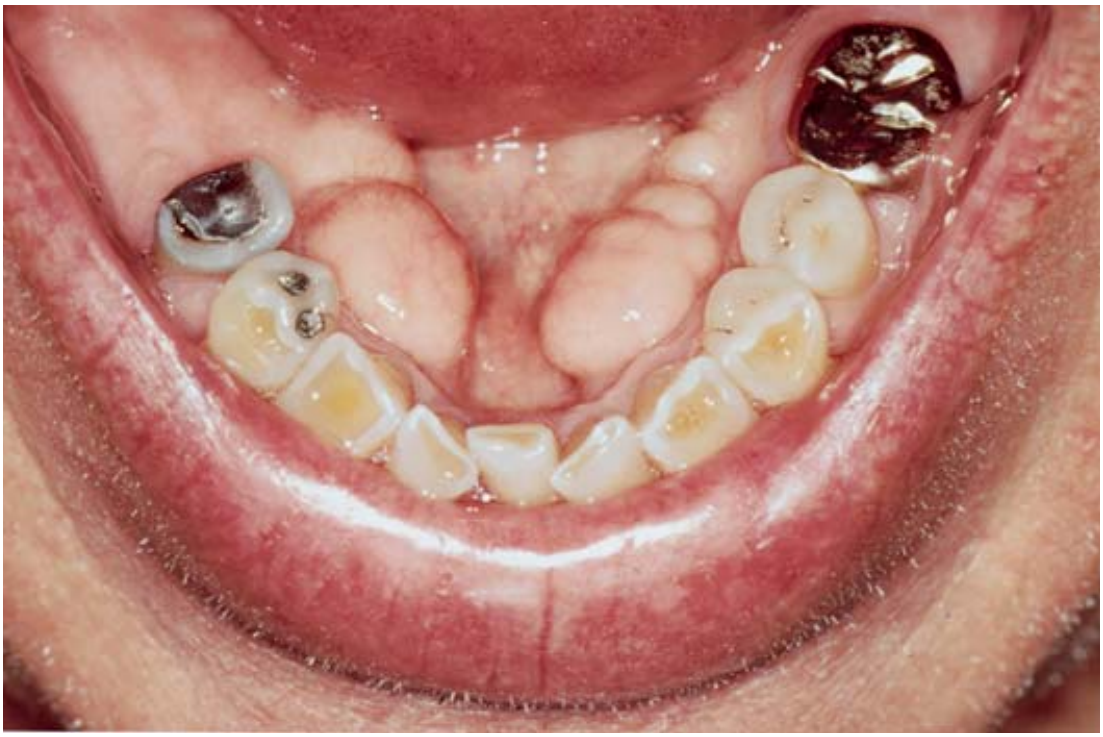
The Diagnosis: Exostoses



Exostoses are localized, benign, bony protuberances that arise from the bone surface (cortical plate). They appear as solitary or lobulated nodules.[1] These exophytic lesions are covered with a thin pale mucosa. Multiple sites of intraoral exostoses have been described—the most commonly encountered are those affecting the midline of the hard palate (torus palatinus) and the lingual aspect of the mandible (torus mandibularis). Torus palatinus is more common than torus mandibularis.[1] Mandibular lesions have been identified in up to 27% of all modern American skulls.[2] Most mandibular lesions occur bilaterally on the lingual surface in the premolar area of the mandible and superior to the mylohyoid ridge.[1,2] Tori occur most frequently in adults aged 35 to 65 years.[3] Most studies report a higher prevalence of palatal tori in women and a higher prevalence of mandibular tori in men.[2-5] Mandibular exostoses are statistically associated with the presence of teeth and a younger age of onset.[2] Persons of Thai descent have a higher prevalence of palatal and mandibular tori than Germans suggesting racial differences.[5]

The etiology of exostoses is controversial. Formation secondary to occlusional stress from powerful mastication has been favored.[6,7] Hypovitaminosis, bruxism, and hereditary factors also have been proposed as possible causes.[8] Etiology is probably multifactorial.

To our knowledge, only a single case of multiple maxillary and mandibular exostoses associated with multiple dermatofibromas has been reported in the literature.[9] Exostoses must be differentiated from osteomas; osteomas are benign tumors of well-differentiated sclerotic compact bone arising within or superimposed over normal bone. Bony jaw lesions in the presence of multiple soft tissue osteomas suggest a diagnosis of Gardner syndrome (familial adenomatous polyposis with extraintestinal manifestations). Gardner syndrome is an autosomal-dominant familial cancer syndrome with

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an incidence of 1 in 16,000 births.[10] The disease consists of gastrointestinal polyposis, osteomas or exostoses of the skull and jaw, epidermoid cysts, desmoid tumors, and pigmented ocular fundus lesions.[10,11]

Jaw lesions also may be associated with Gorlin syndrome (nevoid basal cell carcinoma syndrome). Jaw cysts occur in 74% of patients with Gorlin syndrome.[12] The autosomal-dominant disorder linked to chromosome 9 comprises multiple basal cell carcinomas, keratocysts of the jaws, palmar and plantar pits, spine and rib abnormalities, and calcification of the falx cerebri.[12]

Exostoses generally are harmless unless the overlying mucosa is traumatically ulcerated; however, they may require removal to accommodate a dental prosthesis. Exostoses have been suggested as sources for autologous cortical bone transplants.[2]

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