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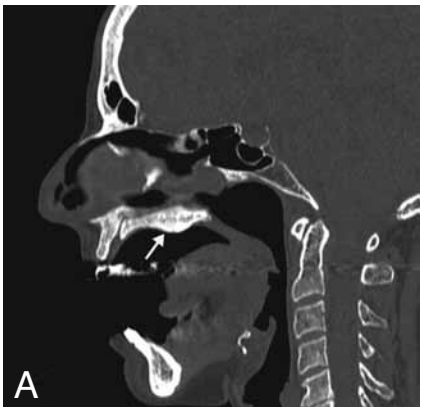
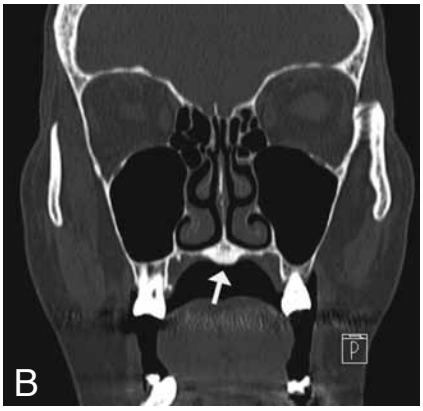
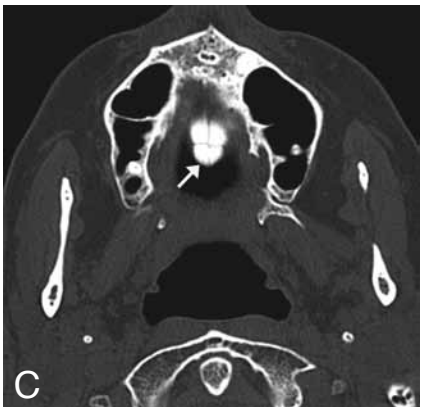
IMAGES IN CLINICAL RADIOLOGY







The 'torus palatinus': a common but relatively unknown entity

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A 60-year-old woman was referred for imaging evaluation of a lump at the midline of the hard palate. The lump was painless but felt hard and lobulated on palpation. Ulcerations were not apparent. It had appeared gradually over time. An open mouth spiral head CT study before and after intravenous contrast injection was performed, with bone reconstructions of the facial skeleton. It revealed a flat based bony thickening at the cleft of the hard palate with a width of 11 mm and a length of 15 mm (Fig. A,B,C). The bony protrusion was covered by a thin layer of mucosa (Fig. D). Contrast enhancement was absent. No other lesions were evident in the oral cavity. The nasal cavity and nasal septum were normal.

Comment

A torus (Latin for "lump") is an exostosis consisting of a dense cortex and a limited amount of bone marrow, usually covered by a thin layer of mucosa. The 'torus palatinus' presents clinically in three shapes: spindle-shaped, nodular or lobular. They are located at the juncture of the palatine apophysis of the maxillae. A mandibular counterpart can be found (torus mandibularis) on the internal side of the horizontal branch of the mandibula, above the mylohyoid line, in the premolar region. Some authors define it as a congenital anomaly, due to "overactivity" of the osteoblasts with bone being deposited along the line of fusion of the palate. A hereditary autosomal dominant form has been described in the literature, but in up to 70% of the cases, the torus was attributed to environmental factors, mainly related to occlusal stress. The growth of the tori is gradual, being greater in the second or third decade of life. The prevalence is higher in women, which could indicate a linkage to the X-chromosome. In addition the tori seem more common in some ethnic groups (eg. Eskimos, Japanese and African Americans). The diagnosis is usually made during clinical examination by a dentist. It is mostly asymptomatic, but could lead to phonatory disturbances, limitation of mastication, ulceration of the mucosa (mimicking cancer), food deposition and instability of dental prosthetics. Radiographs (perapical, occlusal or panoramic) are not very useful. Clinical examination is sufficient in most of the cases, but in case of doubt CT of the facial skeleton is the best option. MRI does not contribute to the diagnosis. Differential diagnosis with sarcoma or squamous cell carcinoma is not difficult because there is no bone remoddeling, osteolysis, or mucosal ulceration. Removal of the torus is usually not necessary. Surgical treatment is ony indicated with disturbances of phonation, limitation of mastication, sensitivity or ulceration of the overlying mucosa, and instabilty or conflict with dental prosthetics. Removal of the accessory cortical bone of the tori can also be performed in case of need of autogenous bone grafts in periodontal implant surgery.

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