

Torus palatinus

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Kupffer and Bessel-Hagen coined the term torus palatinus in 1879 for a benign osseous protuberance arising from the midline of the hard palate. Tori are present in approximately 20% of the population and are occult until adulthood. Recent advances in modern radiology have led to improved evaluation and diagnosis of tori.

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A 54-year-old woman presented with a firm, painful swelling of the hard palate of 4 years' duration.

A clinical diagnosis of maxillary torus without ulceration was made. Computed tomography (CT) was performed for confirmation of torus palatinus and to aid surgical planning. The CT scan demonstrated lobulated bony outgrowths arising from the inferior margin of the hard palate, consistent with torus palatinus. (Fig. 1).



Fig. 1. Reconstructed coronal CT scan demonstrates a highly calcified, lobulated bony protuberance from the hard palate.

Discussion

Torus palatinus is a benign, reactive hyperplasia of osseous tissue extending outward from the surface of the bone.^[1] It is an intra-oral osseous protruberance of varying size arising along the midline suture of the hard palate.^[2] Jainkittivong and Langlais^[3] characterised these developmental anomalies as sessile nodular bony masses comprising hyperplastic mature and trabecular bone. The torus can arise from the inner or outer surface of the maxillary bone, and is generally named according to location.^[1,4] Torus palatinus presents in approximately 20% of the population and is occult until adulthood.^[1,5] The term was coined by Kupffer and Bessel-Hagen in 1879, many years after its first observation.^[2]

The aetiology of torus palatinus has been researched extensively and is thought to arise from an interplay between genetic and environmental factors and masticatory

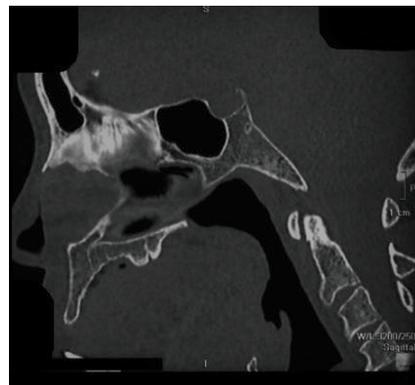


Fig. 2. Reconstructed sagittal CT image shows lobulated outgrowths from the hard palate.

function. The quasi-continuous genetic or threshold model states that the environmental factors responsible must first reach a threshold level before genetic factors can express themselves in the individual. There is a prevalence in middle-aged females, with racial and ethnic group differences.^[2,3]

The other most common intra-oral exostosis – torus mandibularis – is a bony outgrowth on the lingual surface of the mandible, most frequently in the premolar or canine area. The concurrence of the different forms of tori shows a low prevalence.^[2,3]

Tori are usually asymptomatic except when complicated by trauma or ulceration. They

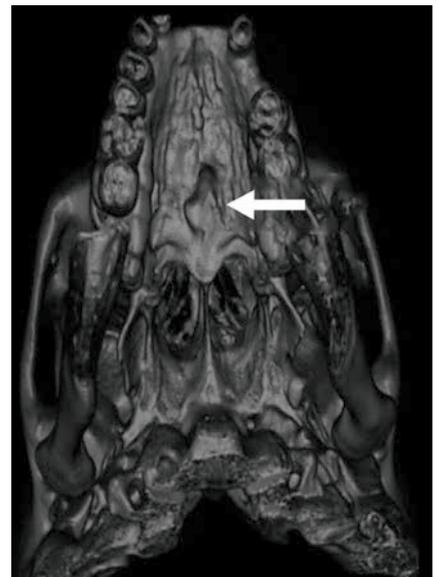


Fig. 3. Three-dimensional CT image shows torus palatinus.

may also interfere with speech, mastication or fabrication of maxillary dentures.^[1,5]

On panoramic radiographs, small tori palatini are not well demonstrated owing to overlying bony structures; larger tori can be easily detected with a bosselated or multi-lobulated appearance.^[1,5] With advances in imaging techniques, multidetector CT including multiplanar imaging, 3D reconstructions and volume rendering techniques, these osseous protuberances of varying size and locations can be diagnosed to facilitate surgical planning.^[1]

When treatment is elected, the lesions may be chiselled off the cortex or removed via a burr, cutting through the base of the lesion. Recurrent lesions may occur, but there is no malignant potential. Gardner syndrome should be excluded if patients present with multiple exostoses that are not in the classic torus locations. Intestinal polyposis, desmoids and cutaneous fibromas are other common features of this autosomal dominant syndrome.^[5]

Conclusion

This report highlights a case of torus palatinus – a benign bony exostosis arising from the midline of the hard palate. Tori have been well documented and researched for some centuries, they occur currently, and are clinically and radiologically diagnosed and managed.

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