

**Case 9524**  
**Torus palatinus**

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**Section:** Head & Neck Imaging

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**Patient:** 71 year(s), female

**Authors' Institution**

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**Clinical History**

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A 71-year-old woman with no past medical history was referred to the radiology department by the maxillofacial surgeon for preoperative evaluation of the maxilla for dental implant surgery. A multidetector computed tomography examination was performed and coronal (Fig. 1), sagittal (Fig. 2) and axial (Fig. 3) slices were reformatted.

**Imaging Findings**

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A lobulated bony protuberance was seen at the midline of the hard palate. This osseous overgrowth consisted mainly of dense cortical bone and with only a small amount of cancellous bone in the centre of the lesion. The diagnosis of a torus palatinus was made.

## Discussion

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A torus palatinus (TP) is a bony protuberance located at the union of the processus palatinus maxillares that form the hard palate. This focal hyperostosis is covered by a thin and poorly vascularised layer of mucosa. Different phenotypes of the TP can be recognised with a flat, (poly)lobulated, spindle-shaped or nodular appearance. The lobulated or nodular presentation occurs mostly at both sides along the suture of the hard palate. The TP together with its mandibular counterpart, the torus mandibularis (TM), are the two most common forms of focal hyperostosis. A TM is typically located at the buccal side of the mandible above the mylohyoid line in the premolar region [1, 2]. The exact aetiology is still a matter of debate although a combination of genetic and environmental factors has been incriminated. Tori appear more frequently in certain ethnic groups such as Eskimos and the Japanese population. Also, a female predominance can be observed which renders the genetic factor more likely. The clinical onset of a TP is usually between the age of 11 and 20 years. A small TP is present in about 20% of the population and is mostly asymptomatic. A large TP can possibly lead to phonatory disturbances, limitation of mastication, food deposits and prosthetic instability [2]. Diagnosis is mostly incidental during a routine dental check-up since most tori are asymptomatic. When imaging is needed CT is the imaging modality of choice. Key points to diagnosis are the typical localisation of the lesion at the midline of the hard palate, the often symmetrical presentation along the midline and sharp delineation of the dense cortical bone with only a limited amount of cancellous bone in the centre.

When the palatal lesion is clinically suspect, the most important differential diagnosis that needs to be made is squamous cell carcinoma of the hard palate. In case of a TP the mucosal layer is intact [1].

A TP can also be seen as part of the clinical spectrum of the autosomal dominant inherited type of hyperostosis corticalis generalisata congenita also known as Worth syndrome [3]. This rare disease is characterised by increased bone density, palatal bony protuberances (TP) and thickening of various long bones. As tori are often an incidental finding during routine clinical examination, treatment is usually conservative and surgical removal is only performed in case of prosthetic instability or as a potential donor site for autogenous bone grafts [2].

## Final Diagnosis

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Torus palatinus

## Differential Diagnosis List

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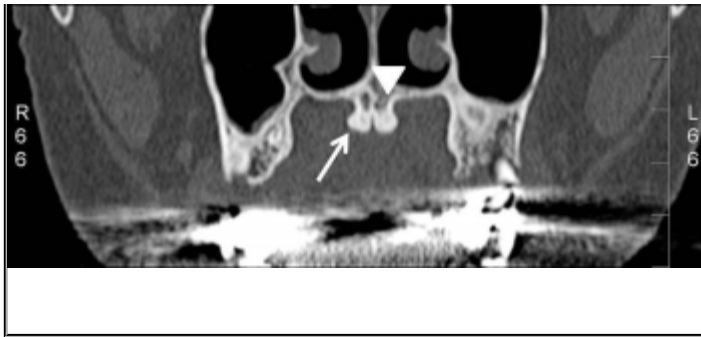
Squamous cell carcinoma of the hard palate, Sarcoma of the hard palate

## Figures

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**Figure 1 Coronal reformatted image**



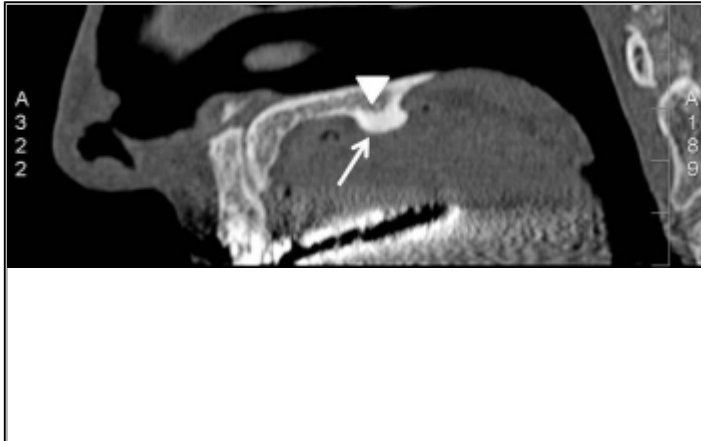


only a limited amount of trabecular bone in the center (arrowhead).:

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Area of Interest: Ear / Nose / Throat;  
Imaging Technique: CT;  
Procedure: Normal variants;  
Special Focus: Speech disorders;  
Swallowing disorders;

**Figure 2 Sagittal reformatted image**



:Sagittal reformatted image shows the dense cortical bone at the periphery of the lesion (arrow) and a limited amount of trabecular bone in the center (arrowhead).:

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**Figure 3 Axial reformatted image**



:Axial reformatted image demonstrates the bilobated lesion at the midline of the hard palate (arrow) with a limited amount of trabecular bone in the center (arrowhead).:

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## MeSH

**Palate, Hard** [A14.549.617.660]

The anteriorly located rigid section of the PALATE.

## References

[1] Boulet C, De Maeseneer M, Buisseret T, Shahabpour M, de Mey J (2011) The 'torus palatinus':

a common but relatively unknown entity JBR-BTR 94:39

[2] Garcia-Garcia AS, Martinez-Gonzales JM, Gomez-Font R, Soto-Rivadeneira A, Oviedo-Roldan L (2010) Current status of the torus palatinus and torus mandibularis Med Oral Patol Oral Cir Bucal 15:e353-60

[3] Wengenroth M, Vasvari Gergely, Federspil PA, Mair J, Schneider P, Stippich C (2009) Case 150: Van Buchem disease (Hyperostosis Corticalis Generalisata) Radiology 253:272-6

## **Citation**

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**Torus palatinus {Online}**

URL: <http://www.eurorad.org/case.php?id=9524>