



Asymmetric bone remodeling in mandibular and maxillary tori

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Mots-clés	Aluminum [4], Bone Remodeling [5], Exostoses [6], histomorphometry [7], Iron [8], Torus [9]
Résumé en anglais	<p>OBJECTIVES: Tori are frequent paucisymptomatic bony outgrowths of the oral cavity in three locations: torus palatinus (TP), mandibularis (TM), and maxillaris (TMax). Their usually described histological characteristics are unspecific: normal cortical bone with more or less trabecular bone. The aim of this study was to describe tori's specific morphological and histomorphometric characteristics.</p> <p>MATERIALS AND METHODS: Histological characteristics in a series of 18 tori collected after surgical removal were analyzed. Microcomputed tomography provided a 3D analysis. Mineral apposition rate (MAR) was measured after double tetracycline labeling. Osteoid tissue was identified by Goldner's trichrome and osteoclasts by the tartrate resistant acid phosphatase identification in undecalcified sections. Iron and aluminum were detected by histochemical staining methods. Osteoid thickness and MAR were determined at the outer surface of the torus and in the Haversian canals.</p> <p>RESULTS: Tori appeared made of lamellar Haversian bone in 16/18 cases. Osteoid thickness did not differ between the outer surface and within the canals. An asymmetric bone remodeling was observed in the Haversian canals of 15 tori: osteoid seams were deposited on the side close to the free torus surface, and Howship's lacunae with numerous osteoclasts were observed on the opposite side. A high MAR was found at the surface of the tori and within the canals. There was no iron or aluminum deposit.</p> <p>CONCLUSIONS: Tori may be characterized by a specific asymmetric bone remodeling which seems to determine their shape.</p> <p>CLINICAL RELEVANCE: This finding could constitute a specific histological feature allowing to differentiate tori from exostoses. Graphical abstract.</p>
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