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Surgical Management of Multiple Giant Oral Exostoses - Case Report

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ABSTRACT

Intraoral bone overgrowths (IBO), including exostoses and tori, are non-pathological developmental anomalies affecting the maxillary and mandibular alveolar ridges. These lesions are generally asymptomatic and often identified during routine clinical or radiographic examinations. Nevertheless, in rare and extensive presentations, they may result in functional impairment or aesthetic concerns, justifying surgical intervention. This report describes an uncommon case of synchronous and exuberant intraoral bone overgrowths involving multiple anatomical sites in a 40-year-old male, highlighting its clinical features and treatment outcome.

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Introduction

Intraoral bone overgrowths (IBO) are non-pathological developmental anomalies that occur in the maxillary and/or mandibular alveolar ridge, including exostoses and tori [1]. Clinically, these abnormal bone growths are usually asymptomatic; however, gingival and/or mucosal ulceration may occur secondary to trauma. In rare cases, giant IBO may cause unaesthetic facial volume or contour alterations [2]. Diagnosis is based on clinical and radiographic findings.

The anatomical location of IBO determines their nomenclature. Mandibular tori are usually located on the lingual surface of the mandible, typically in the canine or premolar region above the mylohyoid line, and may occur bilaterally. Palatal tori are located along the palatal midline, while buccal exostoses may occur on the vestibular surfaces of the maxilla and mandible. The size of these bone anomalies varies, ranging from small to giant, and they may occur simultaneously in different locations [1-2].

The etiology of IBO is multifactorial and may involve genetic, environmental, or functional factors, such as parafunctional habits and increased masticatory stress [3-4]. Several studies suggest a stronger association with oromaxillofacial functional factors rather than genetic predisposition alone [5]. Although these anomalies generally do not require treatment, surgical intervention may be indicated for prosthetic rehabilitation, intubation difficulties, restricted tongue movement, or aesthetic concerns. In such cases, osteoplasty is considered the treatment of choice. Additionally, IBO may serve as a source of autogenous bone graft material [6].

Herein, we report an exuberant case of multiple jaw exostoses and tori affecting a male patient, highlighting the clinical features and surgical management.

Case Report

A 40-year-old male was referred for evaluation of a long-standing history of multiple, slow-growing, asymptomatic intraoral bone growths affecting the maxillary and mandibular regions. The patient's medical history was unremarkable, and he denied tobacco and alcohol use. However, he reported sleep bruxism and regular use of a custom-fit occlusal splint (night guard).

Extraoral examination revealed mild facial swelling in the anterior maxillary region, particularly in the nasolabial area. Intraoral examination revealed multiple proliferative lesions of hard consistency, painless on palpation, and covered by normally colored mucosa (Figure 1A-B). These lesions were located on the buccal aspects of the maxilla and mandible, in addition to bilateral mandibular tori. Orthopantomography demonstrated well-defined radiopaque images located in the maxillary and mandibular

alveolar ridges with no association with teeth (Figure 1C).

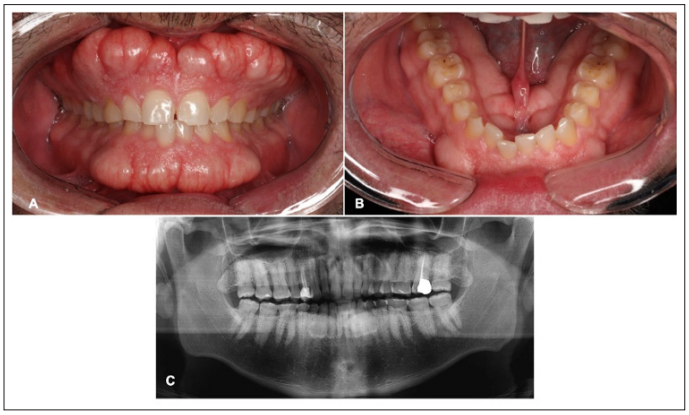

Figure 1: A-B: Exuberant multiple buccal exostoses of the maxilla and mandible, associated with bilateral mandibular tori. The lesions exhibited hard consistency and were covered by normal keratinized gingiva. **C:** Panoramic radiograph showing well-defined radiopaque images located in the superior and inferior alveolar ridges.

Based on clinical and radiographic findings, a diagnosis of buccal exostoses and mandibular tori was established. Due to the patient's aesthetic concerns, maxillary and mandibular osteoplasty was proposed. Under general anesthesia, mucoperiosteal flaps were raised in the anterior maxillary and mandibular regions, as well as on the lingual surface of the mandible (Figure 2A-C). Osteoplasty was performed using fissure and round burs under copious irrigation.

Postoperative recovery was uneventful, and satisfactory healing was observed. Optimal cicatrization was noted throughout the six-month follow-up period (Figure 2D-F).

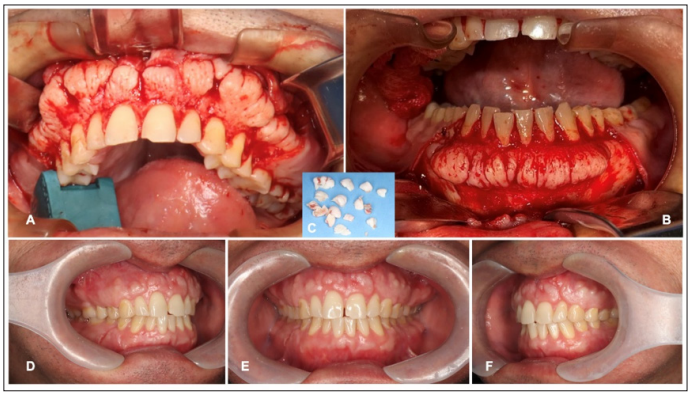

Figure 2: A,B: Under general anesthesia, a mucoperiosteal flap was elevated and osteoplasty was performed using fissure and round burs for bone removal. **C:** Gross appearance of the excised bone overgrowth. **D–F:** At the six-month follow-up, optimal cicatrization was observed.

Discussion

Bone overgrowths are commonly encountered developmental anomalies of the oral cavity, with reported prevalence rates ranging from as low as 0.64% to as high as 64.4% [7]. However, the prevalence of specific IBO subtypes varies according to ethnicity, as demonstrated in epidemiological studies conducted worldwide [1-8]. Mandibular tori are reported to be the most prevalent subtype among Japanese, Spanish, and Ghanaian populations whereas palatal tori are more commonly observed in German, Norwegian, Thai, and Malaysian individuals [4,6,8]. Buccal exostoses represent the least frequently reported subtype [5,9,10]. The synchronous occurrence of all three IBO subtypes is rare, in the present case both buccal maxillary and mandibular exostoses and mandibular tori were observed [10].

A slight female predilection has been described, and bone overgrowths are typically observed in adult and elderly populations - although, they may also occur in younger individuals - suggesting a slow-growing pattern [1-5]. In the present case, a 40-year-old male reported a long-standing history of multiple IBO, which ultimately led him to seek treatment due to aesthetic concerns. These abnormalities are usually small in size, with most lesions measuring between 2 and 4 mm, and only a limited number exceeding 4 mm, as observed in the present case [11].

Parafunctional habits, particularly sleep bruxism, have been strongly associated with the development of IBO [1-10]. Bone tissue adapts to mechanical loading through continuous remodeling, resulting in increased strength over time [12]. In this context, occlusal forces transmitted through the periodontal ligament may stimulate increases in bone mass and density, contributing to the formation of bony prominences. Prolonged functional stress associated with nocturnal bruxism may therefore enhance loading in the premolar and molar regions, promoting increased bone mass and reinforcing occlusal forces [5]. Nevertheless, further investigations are required to clarify the clinical relevance of this association. In the present case, the patient reported a long-standing diagnosis of sleep bruxism, in accordance with findings reported in the literature.

Surgical treatment may be indicated in selected cases and typically involves bone removal (osteoplasty) [1-6]. The most common indication for surgical intervention is the elimination of interference with prosthetic rehabilitation [1-5]. Additionally, IBO may be removed for harvesting autogenous bone grafts for use in implant, cystic, or periodontal reconstructive procedures. The surgical technique for the removal of buccal exostoses and/or tori may vary according to the surgeon's preference [13]. Bone removal can be performed using chisels or rotary instruments. Most procedures are carried out under local anesthesia, as these lesions are generally small; however, in extensive cases such as the one presented, general anesthesia may be required to ensure patient comfort and facilitate surgical management [13,14].

Conclusion

Intraoral bone overgrowths are common developmental anomalies that are usually asymptomatic and do not require treatment. However, in rare and extensive presentations, such as the case reported, they may result in functional impairment and aesthetic concerns, justifying surgical intervention. The present case highlights the uncommon synchronous occurrence of buccal exostoses and bilateral mandibular tori, emphasizing the importance of thorough clinical and radiographic evaluation for accurate diagnosis.

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Nothing to declare.

Conflict of Interest

The authors do not have any conflict of interest.

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Informed Consent Statement
Written informed consent was obtained from the patient prior to the publication of this case report.

Author Contributions
Rodrigues BTG and Israel MS performed the diagnosis and surgical procedure of the case. Rodrigues BTG, Custódio ACS and Serrano VSL were involved in the initial draft and original writing. Ribeiro DPB and Israel MS, collaborated in the final review of this article.

Availability of Data and Materials
Data sharing is not applicable to this article as no datasets were generated or analysed during this study.

References
1. Lease LR (2021) Correlations between dental wear and oral cavity characteristics: Mandibular torus, palatine torus, and oral exostoses. Am J Hum Biol 33: e23446.
2. Auškalnis A, Bernhardt O, Putnienė E, Šidlauskas A, Andriuškevičiūtė I, et al. (2015) Oral bony outgrowths: prevalence and genetic factor influence. Study of twins. Medicina (Kaunas) 51: 228-232.
3. Clifford T, Kamey PJ, Fartash L (1996) Mandibular tori, migraine and temporomandibular disorders. Br Dent J 180: 382-384.
4. Sirirungrojying S, Kerdpon D (1999) Relationship between oral tori and temporomandibular disorders. Int Dent J 49 : 101-104.
5. Yoshinaka M, Ikebe K, Furuya-Yoshinaka M, Maeda Y (2014) Prevalence of torus mandibularis among a group of elderly Japanese and its relationship with occlusal force. Gerodontology 31: 117-122.
6. Reichart PA, Neuhaus F, Sookasem M (1988) Prevalence of torus palatinus and torus mandibularis in Germans and Thai. Community Dent Oral Epidemiol 16: 61-64.
7. García-García AS, Martínez-González JM, Gómez-Font R, Soto-Rivadeneira A, Oviedo-Roldán L (2010) Current status of the torus palatinus and torus mandibularis. Med Oral Patol Oral Cir Bucal 15: 353-360.
8. Eggen S, Natvig B, Gåsemyr J (1994) Variation in torus palatinus prevalence in Norway. Scand J Dent Res 102: 54-59.
9. Bruce I, Ndanu TA, Addo ME (2004) Epidemiological aspects of oral tori in a Ghanaian community. Int Dent J 54 : 78-82.
10. Loukas M, Hulsberg P, Tubbs RS, Theodoros K, Christopher TW, et al. (2013) The tori of the mouth and ear: a review. Clin Anat 26: 953-960.
11. Noor MIM, Tajuddin MF, Alam MK, Basri R, Purmal K, et al. (2013) Torus palatinus and torus mandibularis in a Malaysian population Int Med J 20: 767-769.
12. Reddy MS, Geurs NC, Wang IC, Perng RL, Yung TH, et al. (2002) Mandibular growth following implant restoration: does Wolff's law apply to residual ridge resorption? Int J Periodontics Restorative Dent 22: 315-321.
13. Castro Reino O, Perez Galera J, Perez Cosio Martin J, Urbon Caballero J (1990) Surgical techniques for the exeresis of torus, both palatal and mandibular. Rev Actual Odontoestomatol 50: 47-50.
14. Donado M (1998) Pre-prosthetic Surgery. In: Oral Surgery. Pathology and Technique 2th ed. Barcelona: Masson 481-510.