Oral exostoses – A rare case report and literature review

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Στοματικές εξοστώσεις – Αναφορά σπάνιας περίπτωσης και ανασκόπηση βιβλιογραφίας

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Case Report
Αναφορά περιστατικού

SUMMARY: Oral Buccal Exostoses are benign bony protuberances that arise from the cortical bone. They are named after their location such as torus palatinus if it arises in the palate and torus mandibularis, if it arises from the mandible. The etiopathogenesis is still unclear with various authors citing racial, genetic, teeth attrition, parafunctional habits and even nutritional factors. Though asymptomatic, surgical intervention becomes mandatory when esthetics are of concern or during denture fabrication in terms of edentulous alveolar ridge.

KEY WORDS: Exostoses, Buccal, osteotomy, Tori, denture, Surgery

ΠΕΡΙΛΗΨΗ: Οι στοματικές εξοστώσεις είναι καλοήθεις οστικές προεξοχές που προκύπτουν από το φλοιώδες οστό. Ονομάζονται από τη θέση τους, όπως torus palatinus εάν προκύπτει στον ουρανίσκο και torus mandibularis, εάν προέρχεται από την κάτω γνάθο. Η αιτιοπαθογένεση είναι ακόμα ασαφής με διάφορους συγγραφείς να αναφέρουν φυλετικούς, γενετικούς παράγοντες, βρουξισμό, παραλειτουργικές συνήθειες και ακόμη και διατροφικούς παράγοντες. Αν και ασυμπτωματική, η χειρουργική επέμβαση καθίσταται υποχρεωτική όταν υπάρχει αισθητική ενόχληση ή κατά τη διάρκεια της κατασκευής οδοντοστοιχίας στις νωδές φατνιακές ακρολοφίες.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: Εξοστώσεις, Στοματική κοιλότητα, Οστεοτομία, tori, οδοντοστοιχία, Στοματική Χειρουργική

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INTRODUCTION

Oral Buccal exostoses (OBEs) belong to a group of bony, benign, exophytic nodular and asymptomatic hamartomas that form as outgrowths of dense cortical bone. They usually involve the buccal or lingual cortical plates of the maxillary and/or the mandibular alveolus (Pynn BR, Kurys-Kos NS t al 1995). The maxilla presents a higher prevalence of 8% to 51% compared to the mandible which is 6%-32% (Kitajima S and Yasui A, 2005). Though oral exostosis presents as a benign lesion, malignant bone tumors, Gardner's syndrome should be taken into consideration in the differential diagnosis and be effectively ruled out. The etiology of tori has been long debated with authors suggesting the cause to be hereditary, alteration of bone metabolism, parafunctional habits, masticatory hyperfunction and edentulousness have been reported to alter alveolar bone metabolism (Jainkittivong A, Langlais RP et al, 2000, Horning GM, Cohen ME et al, 2000, Sathya K, Kanneppady SK et al, 2012).

Though, literature suggests the exostoses do not necessitate surgical intervention unless they interfere with speech, mastication, aesthetics and denture fabrication. Here we report a rare occurrence of buccal exostosis on the Maxillary alveolar ridge and its subsequent treatment.

CASE REPORT

A 56 year old male patient reported to our outpatient clinic with a chief complaint of swelling involving his upper gums for the past 6 months. He had noticed the swelling in his upper gingival region for the past 3 years but did not seek treatment as it was asymptomatic. His elder brother also had the same bony outgrowth in his gum. The patient had undergone multiple extraction of his upper teeth due to mobility a year back and the healing was apparently eventful. The patient had consulted with a dentist in his rural area for denture for the edentuluous jaws but had migrated elsewhere during his treatment. On the day of the initial visit, intraoral examination revealed round, nodular growth over the maxillary buccal alveolar ridge. The overlying mucosa was normal in colour. The upper alveolar ridge was completely edentulous except for a root stump in relation to 15. On palpation, the swellings were round, firm, raised, non-tender [Figure 1]. Panoramic radiograph revealed a completely edentulous maxillary arch and a fixed partial denture in relation from 34 to 44 and 36 [Figure 2]. The Upper alveolar ridge had well-delineated radiopaque masses that were oval to oblong in their shape. Based on the above mentioned findings and radiography, a diagnosis of maxillary buccal exostosis was arrived. The patient was explained regarding the diagnosis and the treatment.

Fig. 1: Preoperative. clinical photograph.

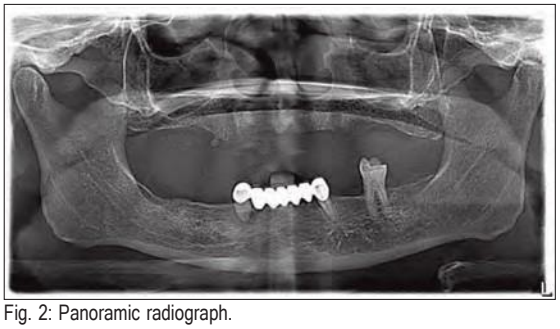

Fig. 2: Panoramic radiograph.

Fig. 3: Mid crestal incision placed.

The treatment planned was to remove the bony masses under local anesthesia. Following a mid crestal incision from the canine to 2nd molar region [Figure 3], a full thickness mucoperiosteal flap was raised to expose the bony masses underneath [Figure 4]. The bony growth was cut with a bone cutting carbide bur, No 702 SS white bur with copious amounts of saline irrigation. The bony growths were cut with rongeur forcep and the al-

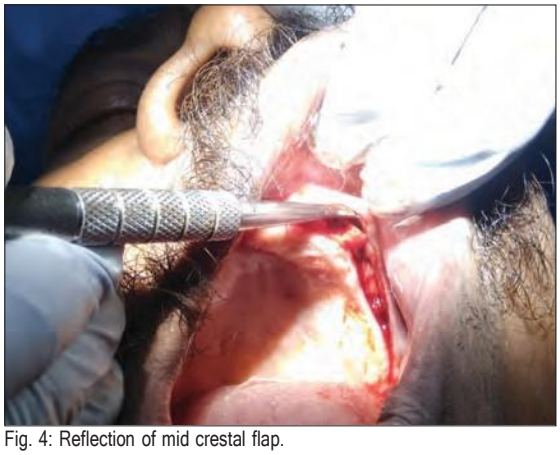
Fig. 4: Reflection of mid crestal flap.


Fig. 5: Splittung/removal of the protuberant exostoses.


Fig. 6: Simple interrupted sutures placed.

veolar housing was smoothened with bone file [[Figure 5]. Following the bone reduction and leveling the surgical site was cleaned with a solution of povidone iodine and saline. The flap was then closed with interrupted sutures [Figure 6]. Antibiotics, analgesics and chlorhexidine (0.12%) mouthwash were prescribed. The healing was uneventful and in the review visit after 10 days, suture removal was done.

DISCUSSION

Oral exostoses manifest as bony overgrowth and arise from the buccal and lingual cortical plate of the mandible. The diagnosis can be made on radiographic and clinical features. Biopsy is done only when in the suspicion of a syndrome or to rule out early osteosarcomas and chondrosarcomas.

Oral exostoses are frequent with a prevalence rate of 1.4 to 61.7% (Suzuki M and Sakai T, 1960). The etiology has been speculated for decades ranging from genetic (King DR and Moore GE, 1976), environmental (masticatory stress) (Eggenn S and Natvig B, 1991), increased levels of Vitamin D, saltwater fish consumption (Antoniades DZ, Belazi M et al, 1998). A correlation between the exostoses and clenching of jaws, grinding of the teeth and bruxism has been demonstrated (AlZarea BK, 2016). Gorsky et al. supported environmental factors and genetic factors as a causation for the tori (Gorsky M, Raviv M, et al, 1996). In our case, the patient had a familial history of similar overgrowth in his family. About 8% to 51% of exostoses involve the maxilla and 6%-32%, the mandible (Bashaa S and Dutt SC, 2011, Bathla S, 2011). These lesions are found in about 3% of adults and are more common in males than in females. The patient in our case, was apparently healthy with no other symptoms or anomalies involving the skin or the bone. Panoramic radiographs revealed no impacted or unerupted teeth. They are usually asymptomatic and are self-limiting, but become troublesome when they interfere with speech, mastication, esthetics, denture fabrication or cause pain or discomfort to the patient, then conservative surgical excision can be performed.

Patients with multiple bony growths should be evaluated for syndromes such as fibrous dysplasia and Gardner syndrome where exostoses are a common finding. In Gardner's syndrome. Intestinal polyposis and cutaneous cysts or fibromas are the less prevalent features of Gardner's syndrome. In our case, the patient did not present with any systemic manifestations such as polyps. The clinical and radiographic findings were in line with features of oral exostoses. Although the condition was benign, care should be taken to rule out malignant bone tumors.

Treatment involves resective osseous surgery followed by gradualizing marginal bone in order to provide a sound, regular base for gingival tissue to follow. Saline irrigation should also be carried out during chiseling, since this generates heat (Puttaswamaiah RN, Galgali SR, et al, 2011). Cooling with a copious spray of sterile saline is necessary so that the temperature of the bone is not raised beyond 47°C. In order to provide a perfect seating for denture, the entire bon overgrowths were cut and smoothened out for proper approximation of the flaps. In cases where alveolar ridge lacks sufficient height and width, the bony exostoses become a rich source

of autogenous cortical bone for grafting which inturn would benefit a favorable seating of a future denture fabrication [14].

CONCLUSION

Exostosis are rare but when they are diagnose, they arise exclusively on the facial surface of maxilla and should be differentiated from other disorders and be treated in the event of chronic irritation, denture fabrication and aesthetic concerns.

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