

Buccal Exostosis: A Rare Entity

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Abstract

Buccal exostoses are broad-based, non-malignant surface growth occurring on the outer or facial surface of the maxilla and/or mandible, found usually in the premolar and molar region. Etiology is still not established, but it has been suggested that the bony overgrowth can be because of abnormally increased masticatory forces to the teeth. They tend to appear in early adolescence and may very slowly increase in size with time. They are painless, self-limiting and may increase patient concern about poor esthetics, inability to perform oral hygiene procedures, and compromised periodontal health by causing food lodgment. The following article presents a very rare case of bilateral buccal-sided maxillary exostoses and its management with surgical exploration.

Key Words: Bony exostoses, buccal exostoses, exostoses, tori

Introduction

Tori and exostoses are nodular protuberances of calcified bone and are designated according to their anatomic location.¹ Torus palatinus (TP) and torus mandibularis (TM) are the two most common types of intraoral osseous overgrowths.^{2,3} TP is a sessile, nodular bony mass commonly seen on the midline of the hard palate. TM is bony protuberance found on the lingual aspect of the mandible, in the canine and premolar region. Buccal and palatal exostoses are multiple bony nodular masses found less frequently than tori.^{1,2,4}

Buccal exostoses occur as bilateral, smooth bony growth along the facial aspect of the maxillary and/or mandibular alveolus. Commonly found to appear in the premolar-molar region. On palpation, the exostoses are hard bony mass. The overlying mucosa appears to be stretched but intact and

normal in color. Ulcerations may be seen as a result of trauma or any injury to the mucosa. They tend to develop during adolescence and gradually enlarge over the years. They are normally self-limiting and painless. Their size may increase to several centimeters thus contributing to periodontal disease of adjoining teeth by retaining food during chewing instead of flushing away. Usually no treatment is required, but for those possibly affecting the periodontal condition, or when the protruberances cause pain or discomfort to the patient, or when these bony enlargements cause pseudo swelling over the lip, then conservative surgical excision can be performed.

The etiology of tori has been not been established yet. Some of the suggested causes include genetic factors, environmental factors, masticatory hyperfunction and continued jaw bone growth.^{5,6}

The histologic features of tori and exostoses are identical.² A very small exostosis and tori consist entirely of compact bone but when large and nodular, it consists of cancellous bone surrounded by cortical bone.

Diagnosis, treatment and prognosis

The diagnosis of a buccal exostosis is based on the clinical examination along with radiographic interpretations. Clinically, the torus may appear as numerous rounded protruberances or calcified multiple lobules, whereas the exostosis is a single, smooth broad-based mass, may have a sharp, pointed bony projection producing tenderness just beneath the mucosa.⁸ Lesions may slowly enlarge up to 3-4 cm in greatest diameter, but it does not have malignant transformation potential. Buccal exostoses are usually found only on the facial surface of the maxillary alveolar bone, especially in the posterior segment. Radiographically, exostosis appears as well-defined round or oval calcified structure superimposing the roots of teeth. Biopsy should be performed if there is any dilemma regarding diagnosis.

The patients are having multiple bony growths or lesions which are not in the classic torus or buccal exostosis locations should be evaluated for Gardner syndrome. This autosomal dominant syndrome shows other features such as intestinal polyposis and cutaneous cysts or fibromas.^{2,5}

No bony exostosis or tori requires treatment unless it becomes large enough to interfere with periodontal health, denture placement, or cause recurrent traumatic ulcerations. When

treatment is elected, the lesions should be cut-off or removed from the cortex using bone cutting bur or hand instruments.

Case Report

A 20-year-old female patient reported to the Department of Periodontology, Maharana Pratap College of Dentistry and Research Centre, Gwalior (Madhya Pradesh) with bilateral masses just above the premolar and molar region in maxilla interfering in her smile and aesthetics (Figure 1). She had noticed slow, but steady enlargement of the masses over the past 5 years. The patient had no history of any kind of symptoms associated with this region. She did not experience discomfort or pain. The patient had no history of trauma to the involved area. She had no significant past medical history. There was also no family history of similar lesions or intestinal polyps. Physical examination of the oral cavity revealed large, bilateral overgrowths located on the buccal aspect of the maxilla in the premolar and molar areas (Figure 2). The lesions were bony-hard on palpation. The overlying mucosa was thin and blanched, and generalized moderate gingivitis with minimal bone loss was present. The exostoses were oblong in shape, measuring approximately 1.7 cm × 1 cm on the right side and 2 cm × 1 cm on the left side. It did not interfere with speech, chewing or other oral functions. The adjacent teeth were vital and there was no history of pain or sensitivity. Radiographic

examination showed a well-defined radiopaque area covering the roots of the premolar and molar teeth. These bony protruberance caused by the thickening or enlargement of the cortical plate of the facial surface of the maxilla without any systemic abnormality helped to reach to diagnosis that it was multiple buccal exostoses.

Generally, no treatment for buccal exostoses is required but as a patient was not happy with the bony masses seen during speech and smile. Hence, the treatment was planned to remove the bony masses under local anesthesia. The full thickness flap was raised to expose the exostoses adequately (Figures 3 and 4). The bony growth was cut with bone cutting carbide bur, No 702 SS white bur under continuous saline irrigation (Figure 5). Smoothing of the rough surface was carried out with bone file and granulation tissue were curetted. The surgical site was washed thoroughly with a solution of povidine iodine and saline in 1:1 proportions and flap was closed. Sutures followed the placement of periodontal dressing. Antibiotics, analgesics and chlorhexidine mouthwash were prescribed. No obvious post-operative complications were noted. A follow-up appointment



Figure 1: Bilateral enlargement seen in premolar and molar region.



Figure 2: Exostoses seen bilaterally.



Figure 3: Flap reflection revealing the bony mass of 2 cm × 1 cm on left side



Figure 4: Flap reflection revealing bony mass of 1.7 cm × 1 cm on right side.



Figure 5: Removal of bony growth.

was scheduled after 10 days of surgery to check the site and for suture removal. The tissue appeared healed, and the patient was totally asymptomatic after 10 days (Figure 6).

Discussion

Buccal exostoses are non-malignant lesions of little clinical significance. The multiple masses in the maxilla are consistent with multiple buccal exostoses, which are bony protuberances that arise from the cortical plates in the maxilla and mandible. They usually occur in the late teens and early adult years, and many continue to enlarge slowly over time. The etiology of the multiple exostoses remains unknown, although it has been suggested to be the outcome of a mild, chronic periosteal inflammation. The diagnosis of a buccal exostosis is based on clinical and radiographic findings. An additional biopsy for diagnostic support is usually not recommended. It remains important to distinguish exostoses from early osseosarcomas and chondrosarcomas. Furthermore, the patients with multiple bony growths, not in the classic buccal exostoses locations should be evaluated for Gardner's syndrome. Intestinal polyposis and cutaneous cysts or fibromas are other common features of the autosomal dominant Gardner's syndrome.^{2,5}

Neither the torus nor the bony exostosis require treatment unless it becomes large enough to interfere with function, denture placement, cause recurring traumatic surface ulceration (usually from sharp food such as potato chips or fish bones) or as used to get autograft as it is a potent donor site.⁷ When treatment is elected, the bony mass may be removed using bone cutting bur or chiseled off through the base of the lesion.



Figure 6: Post-treatment healing after 10 days.

Conclusion

The case report presented above illustrates a unique and rare presentation of exostoses on the buccal side of the maxillary premolar - molar region, bilaterally. A procedure was performed to remove the masses. The procedure went uneventfully. Exostosis is rarely found on the facial surface of maxilla thus should not be ignored and should be carefully differentially diagnosed.

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