

Bilateral Maxillary Buccal Bone Exostosis: Rare Case Report

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Abstract

Buccal bone exostosis like torus palatines and torus mandibularis are broad-based, non-malignant surface growth occurring on the outer or facial surface of the maxilla and/or mandible, they could be found in the premolar and molar region and are the rarest entities. The diagnosis of a buccal exostosis is based on clinical and radiographic findings. Surgical management is not always indicated and should be well managed to get the most advantage of this condition.

The following paper presents a rare case of bilateral buccal-sided maxillary exostosis, which was conflicting with the patient ability of restoring her edentulous maxilla, and its successful resective osseous surgery.

Keywords: Bone and Bones; Exostoses; Maxilla; Hyperostosis, Overgrowth

Introduction

Tori and Exostosis are localized bony nodular protuberances that arise from the cortical plate. They are designated according to their anatomic location, the best-known oral exostosis are torus palatines (TP), a sessile, nodular bony mass commonly seen on the midline of the hard palate and the torus mandibularis (TM), a bony protuberance found on the lingual aspect of the mandible, in the canine and premolar region. Other types of exostosis, buccal bone exostosis (BBE), also may affect the jaws, they are found less frequently than tori [1].

Exostoses are hard bony masses on palpation. The overlying mucosa appears normal color stretched but intact. Due to trauma or any injury, ulcerations may be seen on the mucosa. They tend to develop during teenage and may gradually enlarge over the years. Buccal exostosis may be seen as self-limiting and painless bony masses. The increased size may be a contributing factor to periodontal disease of adjacent teeth due to retention of food while chewing instead of flushing away. The treatment of bony exostosis is usually not required, unless it is affecting the periodontal condition or causing pain or discomfort to the patient, or when causing pseudo swelling over the lip [1,2].

The etiology of exostosis has not been established yet. TM, TP and exostosis may share the same causative factors. Findings support the theory that the etiology of exostosis is multifactorial, including genetic and functional influences (masticatory hyperfunction, and continued jaw bone growth). In cases of coexistence of multiple exostosis and tori, this group may represent a general multiple exostosis syndrome [3].

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

The case report presented below illustrates the bilateral maxillary buccal exostosis, which prevents denture replacement for the patient, and its successful management.

Case Report

A 52-year-old female patient reported to the Department of oral surgery, Dental Consultation and Treatment Center-Rabat-Morocco, with bilateral masses just above the premolar and molar region in maxilla (Figure 1). She had noticed slow, but steady enlargement of the masses over the past 3 years after teeth removal.



Figure 1: Preoperative view showing enlargement at the maxillary left and right buccal regions: bilateral oblong with a sharp extremity overgrowths located on the buccal side of the maxilla.

The patient had no history of any kind of symptoms associated with this region. She did not experience discomfort or pain. She had no significant past medical history. There was also no family history of similar lesions. She was not taking any medications, and had no known drug allergies. There was no history of alcohol or tobacco use.

Physical examination of the oral cavity revealed large, bilateral overgrowths located on the buccal side of the maxilla in the premolar and molar areas (Figure 1). The lesions were bony-hard on palpation. The overlying mucosa was thin. The bone overgrowths were oblong in shape with a sharp extremity, measuring approximately 1.7 cm × 2 cm on the right side and 2 cm × 1 cm on the left side. They did not interfere with speech, chewing or other oral functions.

Radiographic examination showed a well-defined radiopaque area in the premolar and molar right zone. In the left zone a mild radiopaque area was noted with residual roots (Figure 2 a, b).

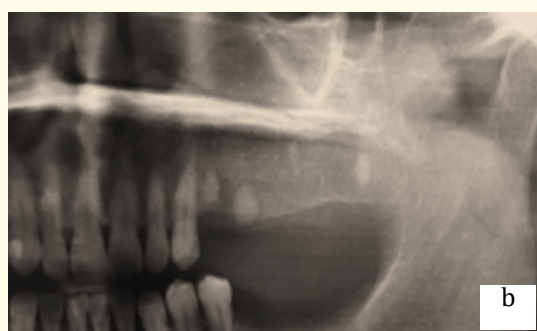


Figure 2: Preoperative panoramic radiography
 a. Well-defined radiopaque area in the premolar and molar right zone.
 b. Residual roots with a mild radiopaque area in the left zone.

These bony thickening or enlargement of the cortical plate of the buccal surface of the maxilla without any systemic abnormality helped to reach to diagnosis that it was bilateral buccal exostosis.

Generally, no treatment for buccal exostosis is required but the patient was looking forward to replace the extracted teeth. Hence, the treatment was planned to remove the bony masses after explaining to the patient the potential risks and benefits of surgery, an informed consent was obtained.

Under local anesthesia, the full thickness mucoperiosteal flap was reflected to gain complete access to the exostosis by giving horizontal and vertical incisions (Figures 3).



Figure 3: Flap reflection revealing bony mass with a sharp edge on the right side.

The bony sharp growth was cut with bone cutting carbide bur, under continuous irrigation (Figure 4). Smoothing of the rough surface was carried out with bone file and granulation tissue was curetted.

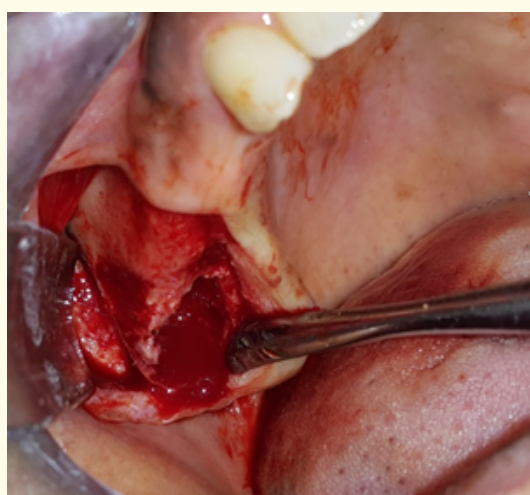


Figure 4: Removal of bony growth.

The surgical site was washed thoroughly and flap was closed. Sutures followed the placement of the flap (Figure 5).

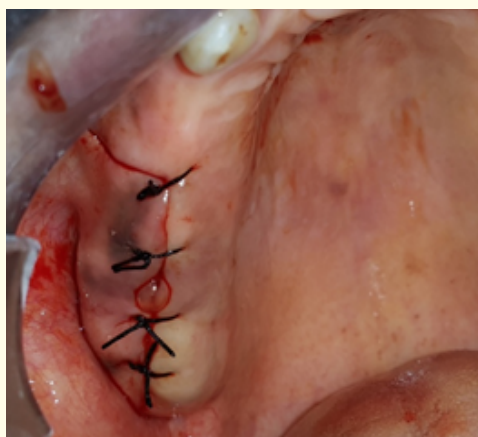


Figure 5: Sutures following the placement of the flap.

Antibiotics, analgesics and chlorhexidine mouthwash were prescribed.

Chiseled marginal bone was sent for histopathologically examination which found that material was indeed just native bone that is, exostosis.

No obvious postoperative complications were noted. A follow-up appointment 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.

A second surgery was performed to manage the left side exostosis one month later and was uneventful.

The patient was able to have her removable prosthesis and no sign of recurrence was detected after 2 years of follow up.

Discussion

An exostosis is a benign, localized, peripheral overgrowth of bone. It may be a nodular, flat or pedunculated protuberance located on the jawbones' alveolar surface, the base of which is continuous with the original bone [4].

The etiology of oral bony exostosis is still not clear. Race, autosomal dominant factors, dental attrition, and even nutritional factors have been suggested as having an influence [5]. These lesions are found in about 3% of adults and are more common in males than in females. The functional influences may contribute to the development of exostosis. Therefore, the altered function in an individual may lead to exostosis development in genetically predisposed populations [6,7]. In our case report, it was difficult to distinguish the true origin of the exostosis since it was on an edentulous maxilla and the patient reported it continuous growth after her teeth

removal which could exclude the functional etiology in our case. However, it could be possible that the patient didn't pay attention to it before. For this reason we couldn't link any etiology to these exostosis.

The diagnosis of a buccal exostosis is based on the clinical examination along with radiographic interpretations. The torus may appear clinically as numerous rounded protuberances 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 as seen in our case report.

Exostoses should be differentiated from an osteoma, an uncommon finding which produces a similar clinical, radiographic, and histological picture. Osteomas are benign, developmental neoplasms which induce proliferation of dense, compact or coarse, cancellous bone usually in an endosteal or periosteal location. A patient should be evaluated for Gardner syndrome if they present multiple bony growths or lesions not in the classic torus or locations. Intestinal polyposis and cutaneous cysts or fibromas are other common features of this autosomal dominant syndrome. Biopsy should be performed if there is any dilemma regarding diagnosis [5,8].

Neither the torus nor the bony exostosis requires treatment unless it becomes large enough to interfere with normal function or causes recurring traumatic surface ulceration (usually from sharp food) or can be used to get autograft as it is a potent donor site. Indeed It seems that the use of the maxillary tuberosity exostose, if large enough and suitable for a block graft, can be a relatively simple and valuable alternative, technique that can offer an intraoral corticocancellous autogenous graft with fewer intra-operative difficulties and postoperative complications, no need to repair the donor site, and excellent potential to correct localized alveolar ridge defects. It is also a source of both block and particulate autogenous bone [9,10].

Conclusion

The case report presented above illustrates a unique and rare presentation of exostosis on the buccal side of the maxillary region, bilaterally. A procedure was performed to remove the masses. The procedure went uneventfully and successful restitution of the physiological bony contour without any untoward complications was accomplished thus, affording as a viable therapeutic option whenever indicated.

Exostosis is rarely found on the facial surface of maxilla, thus should not be ignored and should be carefully differentially diagnosed.

Recent years pointed the use of autograft for managing localized alveolar ridge defects. This finding should be kept in mind in cases with buccal bone exostosis, since they could be a more efficient alternative donor site beside symphysis or ramus graft.

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