

Bilateral Maxillary Buccal Exostosis: A Case Report

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ABSTRACT

Background: Buccal exostosis are localised bony protuberances, benign and broad-based surface masses of the facial aspect of the maxilla and the mandible. They tend to appear in early age and may slowly increase in size with time. They are painless, self-limiting and may increase patient concern about poor aesthetics, inability to perform oral hygiene procedures, and compromised periodontal health by causing food lodgement. The following case report is of a 30-year-old, female presents a case of bilateral buccal maxillary exostoses and its management with surgical intervention.

Keywords: Buccal exostosis, dentistry, periodontology.

INTRODUCTION

Tori and Exostosis are localized bony protuberances that arise from the cortical palate^[1]. According to their anatomic location, the exostosis are 1) Torus palatines which is a sessile, hard bony mass commonly seen on the midline of the hard palate 2) Torus mandibularis, a bony protuberance found on the lingual aspect of the mandible, mostly in the canine-premolar region. Other types of exostosis, buccal bone exostosis, also may affect the jaws, they are found less frequently than tori. Exostoses on palpation are hard bony masses. The overlying mucosa may appear blanched, stretched and intact. Ulcerations may be seen on the mucosa due to trauma or injury. They tend to develop during adolescence and may gradually increase in size over the years. Oral exostosis may be seen as self-limiting and painless bony masses. The increased size of gingiva may be a contributing factor to periodontal disease of adjacent teeth. This is seen due to retention of food while chewing instead of flushing away. The treatment is not necessarily required unless it is affecting the periodontal condition maybe causing pain or discomfort to the patient, or even when causing pseudo swelling over the lip. Torus palatines and torus mandibularis are

broad-based, non-malignant surface growth. These occur 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. Clinical and radiographic findings are needed for the diagnosis of buccal exostosis. Surgical management is not always indicated and should be well managed to get the most advantage of this condition. The etiology of exostosis has not been established yet. [2] Torus mandibularis, torus palatines, and exostosis may share the same causative factors. The etiology of exostosis can be multifactorial, including genetic^[3,4,5,6] and functional influences (masticatory hyperfunction^[7,8,9,10,11] and continued jaw bone growth^[12]). Gorsky *et al.* summarised that the etiology of these common osseous outgrowths is probably multifactorial, including environmental factors acting in a complicated and unclear interplay with genetic factors.^[13] In cases of coexistence of multiple exostosis and tori, this group may represent general multiple exostosis syndromes.

CASE REPORT

A 30-year-old female patient reported to the Department of Periodontology, with bilateral

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masses just above the canine, premolar and first molar region in maxilla interfering in her aesthetics. She had noticed slow, but a steady enlargement of the masses over the past 10 years. The patient had no history of pain or discomfort or any kind of symptoms associated with this region. The patient had no history of trauma to the involved area. She has no relevant past medical history. There was also no family history of similar lesions.



Fig 1: Maxillary bilateral buccal exostosis extending from canine to premolar.

Physical examination of the oral cavity revealed bilateral overgrowths which were large enough to be identified and located on the buccal aspect of the maxilla in the canine, premolar and first molar areas (Fig. 1). The lesions were bony-hard on palpation. The overlying mucosa was pale pink in color, thin and blanched. The exostoses were oblong in shape, measuring approximately 2.8 cm × 1 cm on the right side and 3 cm × 1 cm on the left side. (Fig.1 and Fig.2) 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.



Fig 2: Exostosis measuring approximately 2.8 cm × 1 cm on the right side.



Fig 3: Exostosis measuring 3 cm × 1 cm on the left side.

Radiographic examination i.e. orthopantomogram (OPG) showed a well-defined radiopaque area covering the roots of the canine, premolar and first molar teeth (Fig. 4). These bony protuberance 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. The adjacent teeth were tested for vitality; all tested vital.

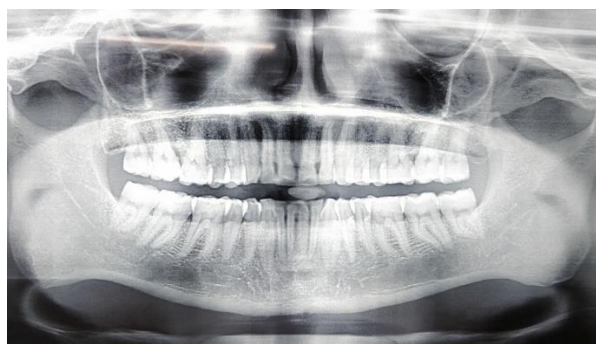


Fig 4: Orthopantomogram (OPG) showed a well-defined radiopaque area covering the roots of the canine, premolar and first molar teeth.

As the patient was not happy with the bony masses seen during speech and smile, hence, the treatment was planned to remove the bony masses. Nonsurgical periodontal therapy alone did not reduce the gingival enlargement because it was bony enlargement, thus necessitating surgical intervention. The surgical treatment included the osteoplasty to remove the bony masses on both the side of the maxilla. Full-thickness flap was raised using blade no. 15 and a periosteal elevator (Fig. 5) A periosteal elevator was placed at the apical end to prevent inadvertent injury during excision. (Fig. 6)



Fig 5: Full-thickness flap was raised using blade no. 15.



Fig 9: Radicular blending was done to gradualize the bone over the entire radicular surface.



Fig 6: Full-thickness flap was raised with a periosteal elevator which was placed at the apical end.



Fig 10: Flattening of interproximal bone.



Fig 7: Vertical grooving/festooning was done to reduce the thickness of the alveolar bone.



Fig 11: Gradulation of marginal bone.



Fig 8: Vertical grooving done with carbide surgical bur at approx. 7000 rpm speed hand piece.



Fig 12: Interrupted sutures were placed with silk sutures.

Vertical grooving/festooning was done to reduce the thickness of the alveolar housing and to provide prominence to the radicular aspects of the teeth, with carbide surgical bur at approx. 7000 rpm speed handpiece. (Fig. 7 and 8). Cooling with a copious spray of sterile saline was done since this generates heat. Radicular blending was done to gradualize the bone over the entire radicular surface. (Fig. 9). Since the interproximal bone levels varied horizontally, flattening of interproximal bone was done. (Fig. 10) Finally, the marginal bone was gradualized so as to provide a sound and regular base for gingival tissue to follow. (Fig. 11) Interrupted sutures were placed with silk sutures. (Fig. 12)

Antibiotics and analgesics along with chlorhexidine mouthwash were prescribed. No obvious post-operative 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 after 10 days. The marginal bone was sent for histopathological examination and found that material was indeed just native bone that is exostosis.



Fig 13a & b: After 3 months maxillary right and left region.



Fig 14: After 3 Months.

DISCUSSION

Buccal exostoses are non-malignant lesions with little clinical significance which are found in the maxilla and mandible. These are consistent with multiple buccal exostoses, which are bony protuberances that arise from the cortical plates in the maxilla and mandible.^[14] They usually occur in the late teens and early adult years, and many continue to enlarge slowly over time. The etiology of the exostoses remains unknown. The diagnosis of a buccal exostosis is based on clinical and radiographic findings. An additional biopsy for diagnostic support is usually not necessary yet needed to distinguish.

A differential diagnosis of Fibrous dysplasia and Gardner syndrome was made. Due to the lack of multiple polyposis of the large intestine; osteomas of the bones; multiple epidermoid or sebaceous cyst of the skin; particularly on the scalp and back; desmoid tumors; impacted supernumerary and permanent teeth in the present case Gardner syndrome was excluded. It remains important to distinguish exostoses from early osteosarcomas and chondrosarcomas. Furthermore, the patients with multiple bony growths should be evaluated for Gardner's syndrome (not in the classic buccal exostoses locations). Intestinal polyposis and cutaneous cysts or fibromas are other common features of the autosomal dominant Gardner's syndrome^[15]

No treatment is needed unless it becomes large enough to interfere with normal function which 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 exostoses, 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 intraoperative 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.^[16]

CONCLUSION

The case report presented here shows a rare presentation of exostosis on both the side of the buccal maxillary region. The procedure was performed to remove the masses. The procedure went uneventfully. This is a viable therapeutic option for the successful restitution of the physiological bony contour without any untoward complication. Exostosis is rarely found on the facial surface of the maxilla, hence should not be ignored and should be carefully differentially diagnosed.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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