



**Research Article**

**MANAGEMENT OF BUCCAL EXOSTOSES: A COMPARATIVE STUDY**

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**ABSTRACT**

Exostoses can be described as non pathologic bony protuberances which are generally localized in nature. Multiple buccalexostosis a rare occurrence among the individuals. A 27 year old female patient reported to the Department of Periodontology, with the chief complaint of bilateral enlargements above the upper and lower back tooth that was interfering with her smile and esthetics. The etiology was unclear, but a provisional diagnosis of bony enlargement was given which was later confirmed by transgingival probing. The buccalexostosis osteotomy was done using bur in one quadrant and was compared with osteotomy procedures done in the remaining quadrants using piezosurgery. There was a significant difference noted in pain scores (VAS), where pain was experienced more on the side where bur was used.

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**INTRODUCTION**

The term exostoses can be described as non pathologic bony protuberances which are generally localized in nature. These protuberances can emerge from the cortical bone or sometimes even the cancellous bone. Intraorally, exostoses are most commonly found in two regions. Those found in the midline suture of the hard palate is termed as Torus Palatinus and those on the lingual aspect of the mandible is termed as Torus mandibularis (1-4). Exostoses can be solitary or multiple in nature. One of the less frequently found variant among the patients is the Buccalexostosis, where the protuberances emerge from the facial aspect of the maxillary or mandibular region, bilaterally. These asymptomatic, benign, multiple bony nodular masses arise in the Premolar- Molar region (5). On inspection, the mucosa overlying the exostoses appears stretched but normal in colour. On palpation, these are hard bony mass with a broad-base that is continuous with original bone. (6)

Buccalexostosis has a prevalence ranging from 8% to 51% in the maxilla and 6%-32% in the mandible. (7). The etiology of buccalexostosis still remains unclear. Even though it has been investigated by several authors, a consensus was never reported. According to Gorsky *et al*, along with various other risk factors such as masticatory hyperfunction and continued growth, an unclear interplay between genetics and environmental factors can also contribute to it. (8) A bony exostosis or torus doesn't require any treatment unless it interferes with esthetics, periodontal health, orthodontic tooth movement, denture placement or cause recurrent traumatic ulcerations.

A highly developing field of cosmetic dentistry along with the increased importance for esthetics mainly among the youngsters has led to the emergence of various treatment modalities advancing even more into less traumatic procedures. This article presents a case report of bilateral maxillary and mandibular buccalexostosis and its management.

**Case Report**

A 27 year old female patient reported to the Department of Periodontology, with the chief complaint of bilateral enlargements above the upper and lower back tooth that was interfering with her smile and esthetics. Patient also noticed a slow and steady growth of the mass over the past 5 years. There was no significant past medical history. Patient had history of traumatic recurrent ulceration intraorally. There was no significant familial history of such lesions.

On Intraoral examination, there was a large bilateral bony protuberance on maxillary (Figure 1) and mandibular –pre-molar region (Figure 2) which was bony hard on palpation. The overlying mucosa was thin and blanched. The patient did not feel any interference while chewing, speech or other oral functions. There was no history of pain or sensitivity of adjacent teeth. Radiographic examination also showed no changes. Since the bony protuberances were caused by the thickening of the facial cortical plate of the maxilla and mandible without any existing systemic abnormalities, a final diagnosis of multiple buccalexostosis was made. Thus a comparative treatment was planned using a bur for mandibular exostosis osteotomy and piezosurgery for maxillary exostosis osteotomy.

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Figure 1



Figure 2



Figure 9



Figure 10

**Surgical Procedure**

After administering adequate Local anesthesia , a full thickness flap was raised in order to expose the exostosis adequately (Figures 3 and 4). The mandibular exostosis was cut using a bone cutting carbide bur, No 702 SS white bur under continuous saline irrigation (Figure 5) whereas the maxillary bony growth was cut with Piezosurgery(Figure 11). The rough surface and irregularities were smoothed using a bone file. Following the removal of the granulation tissue using curettes (Figure 6), the surgical site was washed thoroughly using povidine iodine solution and saline in 1:1 proportions .The flap was then sutured followed by the placement of periodontal pack.(Figure 7 and 8). Antibiotics, analgesics and chlorhexidine mouthwash were prescribed. Patient was recalled after 7 days for reevaluation of the site and removal of the sutures. The patient was totally asymptomatic after 7 days with uneventful tissue healing (Figure 9). A further reevaluation done after 2 months showed complete healing (Figure 10).

**Osteotomy Using Piezosurgery**



11



12

**Osteotomy Using Bur**



Figure 3



Figure 4



Figure 5



Figure 6



Figure 13



Figure 7



Figure 8



Figure 14



Figure 15



Figure 16



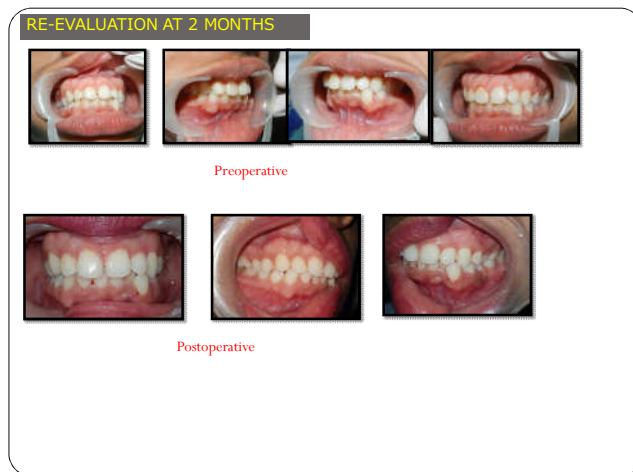
Figure 17

## DISCUSSION

Buccalexostosis are non malignant lesions. The etiology still remain unclear, but the probable reason can be the outcome of a mild, chronic periodontal inflammation along with various other risk factors such as genetics, environmental factors and masticatory hyperfunction. Tori and exostoses are histologically similar. They are entirely made up of cortical bone, but in case of a large and nodular mass, it consists of cancellous bone surrounded by cortical bone(3).

As a part of the treatment protocol, the lesion was treated with bur on the mandible and piezo in the maxilla. Postoperative pain perception was analyzed using visual analog scale VAS on day 1 and day 7. The visual analog scale is a 10 cm line with anchor statements on the left (no pain) and on the right (extreme pain). The patient is asked to mark their current pain level on the line. In Piezo treated site VAS at Day 1 was 1, Day 7 was 0. In Bur treated site VAS at Day 1 was 6, Day 7 was 2. There was a significant difference noted in pain scores. Pain was experienced more on the side where bur was used. Lesser pain experienced with Piezosurgery can be due to its mineralized tissue specific, micrometric and precise cutting which causes less tissue damage.

A bur inflicts thermal insults due to overheating and furthermore have marked potential to cause iatrogenic inadvertent soft tissue injury during surgical procedures. Along with the various advantages of Piezosurgery, the only shortcomings would be an extended operating time, as a result of slow cutting rate.



## CONCLUSION

Bony exostosis being a rare lesion should not be ignored. Benign and malignant tumours should be considered as differential diagnosis if the patient has solitary localized enlargement. A detailed case history including the systemic abnormalities, familial inherited diseases and a proper radiographic interpretation can help us to arrive at a final diagnosis. The above case report represents a rare presence of multiple bony exostosis on the maxillary and mandibular premolar-molar region. These exostosis can be well treated and managed using a bur or by piezosurgery with uneventful healing.

## References

1. Chandna S, Sachdeva S, Kochar D, Kapil H. Surgical management of the bilateral maxillary buccalexostosis. J Indian Soc Periodontol 2015;19:352-5.
2. Regezi JA, Sciubba JJ. Oral Pathology: Clinico-Pathologic Correlations, Philadelphia: WB Saunders Co. 1989;386-7.
3. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and Maxillofacial Pathology, Philadelphia: WB Saunders Co. 1995;17-20.

4. Antoniadis DZ, Belazi M, Papanayiotou P. Concurrence of torus palatinus with palatal and buccalexostoses: Case report and review of the literature. *Oral Surg Oral Med Oral Pathol Oral RadiolEndod* 1998;85(5):552-7.
5. Shafer WG, Hine MK, Levy BM. *A Textbook of Oral Pathology*, 4th ed. Philadelphia: WB Saunders Co.1983;169.
6. Medsinghe SV, Kohad R, Budhiraja H, Singh A, Gurha S, Sharma A. Buccalexostosis: A rare entity. *J Int Oral Health* 2015;7(5):62-64.
7. Limongelli L, Tempesta A, Capodiferro S, Maiorano E, Favia G. Oral maxillary exostosis. *Clin Case Rep*. 2019;7:222–223
8. Gorsky M, Raviv M, Kfir E, Moskona D. Prevalence of torus palatinus in a population of young and adult Israelis. *Arch Oral Biol* 1996;41:623-5.

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