

Surgical Management of the Bilateral Maxillary Buccal Exostosis: A Case Report

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Abstract

Buccal exostosis is a benign growth, most commonly occurs in the upper jaw and rarely found in the mandible. A 32-year-old female patient presented with the complaint of swelling and bleeding in right and left upper buccal region since one year. The etiology of the overgrowth remains unclear though the provisional diagnosis indicates towards a bony enlargement, which was made confirmed with the help of transgingival probing. The bony enlargement was treated with resective osseous surgery. The following article presents a rare case of the bilateral maxillary buccal exostosis and its successful management.

Keywords: Exostosis, Resective Osseous Surgery.

Introduction

Increase in size of the gingiva is a common feature of gingival disease and is called Gingival Enlargement. There can be false enlargements which can be as a result

of increase in size of the underlying osseous or dental tissues and not due to gingival overgrowth. Hard tissue enlargements can be due to hyperostosis or exostosis. They are non- pathologic, bony protuberances that arise from cortical bone and are commonly located on maxillary and less frequently on mandibular buccal alveolus. They are of varied size and shape and can occur as small nodules, large nodules, sharp ridges, spikelike projections or any combination of these¹.

These non-malignant growths that affects both the jaws, generally occur as bilateral smooth bony growth along facial aspect of maxilla/mandible alveolus. They are of 2 types – buccal exostosis and palatal exostosis². Buccal exostosis is found on the buccal aspect of maxilla or mandible, usually in premolar and molar areas and palatal exostosis occur along the palatal aspect usually.

The etiology has not been established yet, although some authors implicated that exostosis has a multifactorial etiology that includes genetic factor^{3,4,5}, environmental factors^{6,7,8}, masticatory hyperfunction^{9,10,11} and continued bone growth¹². According to Gorsky et.al, etiology of these is caused by a complex interplay of genetic and environmental factors¹³.

Bouquet and Gundlach¹⁴ established prevalence of only 0.09% with 73% of lesions encountered on maxilla alveolus. Jaikittivong and Langlais¹⁵ reported a prevalence of 5.1:1 of maxilla:mandible with men exhibiting much more exostoses than women.

This rare case report presented below illustrates bilateral maxillary buccal exostosis and its successful management in a female.

Case Report

A 32-year-old female patient reported to the Department of Periodontics and Oral Implantology, Santosh Dental College, Ghaziabad with the complaint of swelling and bleeding in right and left upper buccal region since 1 year. The patient's family and medical history were found to be non-significant.

Extra-oral examination revealed symmetrical face and convex profile. On intraoralexamination, gingival enlargement was found on the maxillary arch in the posterior region of both the sides and some hard nodular lesions of bone on the buccal surface of maxillary alveolus measuring about length of 20-25mm and width 2mm on the right side and 5 mm lengthwith width 4mm on the left side were revealed. Gingival biotype was thin as assessed by transgingival probing.

Treatment

Scaling and root planning was performed and oral hygiene instructions were reinforced. Post phase I therapy, she was advised mouth rinses with 0.12 chlorhexidine gluconate to reduce bacterial plaque and gingival inflammation. On re-

evaluating the patient two weeks after oral prophylaxis, it was found that the gingival tissues appear healthier but there was not much improvement in gingival enlargement. Routine blood and radiographic (OPG) investigations revealed normal findings.

After explaining the patient the potential risks and benefits of surgery, an informed consent was obtained.

Surgical Procedure

Extraoral asepsis was achieved with povidone iodine 10% and intraoral with glycoside chlorhexidine gluconate 0.12%. The area to be operated was anaesthetized using 2% lignocaine hydrochloride with adrenaline (1:100000).

To gain complete access to exostosis, horizontal crevicular and vertical incisions using no.15c blade were given and a full thickness mucoperiosteal flap was reflected with periosteal elevator. After debridement of the operating site, resective osseous surgery was carried out.

Vertical grooving was done to reduce the thickness of alveolar housing and to provide prominence to the radicular aspect of the teeth with carbide burs at approximately 7000rpm in speed handpiece. Cooling with copious spray of sterile saline was done. Radicular blending was done to gradualize the bone over the radicular surface. Subsequently flattening of interproximal bone was done followed by gradualizing of marginal bone to provide a sound regular base for gingival tissue to follow¹⁶. After removal of osseous tissue, the flap was secured and sutured with 3-0 silk on the site.

The patient was discharged with post-operative instructions and was prescribed systemic antibiotic 500mg amoxicillin and analgesic 400mg ibuprofen three times a day for 5 days. Suture removal was done after a week and uneventful healing of the surgical area without any discomfort was reported by the patient.

Chiselled bone was sent for histopathological examination and the report suggested that it was just a native bone.



Fig.1: Pre-operative



Fig. 4: Flap elevation



Fig. 2: Pre-operative radiograph



Fig.5: Vertical grooving



Fig.3: Pre-operative (right side)



Fig.6: Flattening & gradualizing of bone



Fig.7: Sutured

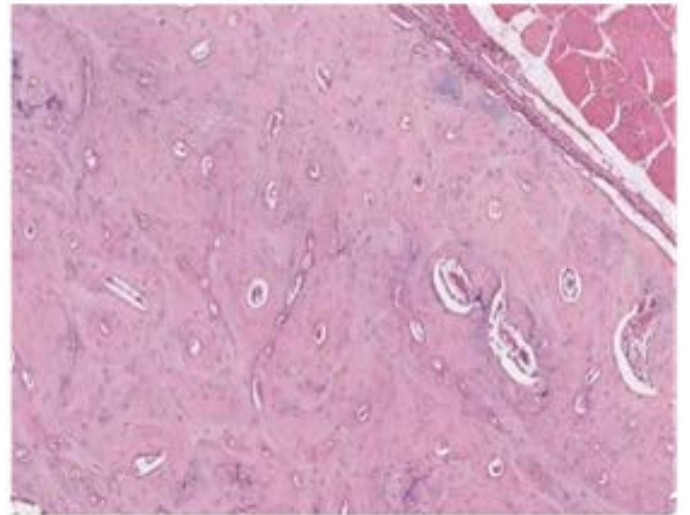


Fig.10: Histopathological image



Fig. 8: Coe-pak placed



Fig.11: Pre-operative (left side)



Fig.9: Post-operative (right side)



Fig12.Post-operative (left side)

Discussion

Exostosis is an uncommon benign lesion of the oral cavity with 0.09% prevalence. More commonly found in males with a number of 3% in adults. Bicuspids and molars are usually the areas that are found affected and this condition may also can occur in various other parts of the jaws as a discrete or multilocular spherical protuberances that forms a nodular cluster with a broad base or continuous with a smooth bulge of bone¹⁷.

Buccal exostosis is a benign growth, occurs in the upper jaw in the outer aspect and rarely found in the lower jaw i.e, mandible¹⁸. The false enlargement of the gingival tissue may appear as a result of increase in underlying osseous tissue size. These growths are usually self-limiting and grows slowly without any complaint of pain². In the above illustrated case report, direct cause and effect was difficult to ascertain as there was no family and medical history of the patient.

Clinical findings of smooth projections bilaterally on the buccal surface of the maxilla below the mucobuccal fold in the molar region over which the mucosa appeared to be blanched in the present case ruled out to be fibrous dysplasia¹⁹. As, fibrous dysplasia usually presents as a painless swelling or bulge in the jaw bone with malaligned teeth. In the present case, a non-surgical periodontal therapy alone didn't reduce the gingival enlargement as it was a bony enlargement, thus necessitating surgical intervention.

Conclusion

Thus, resective osseous surgery successfully accomplished the normal physiological bony contour without any complications in the present case. Hence, it can be considered as a viable treatment option when indicated.

References

1. Carranza FA, Hogan EL. Gingival enlargement. In: Newman MG, Takei H, Carranza FA, Carranza F,

editors. Carranza's Clinical Periodontology. 9th ed. WB Saunders: Philadelphia; 2003. pp. 279–96.

2. Chandna S, Sachdeva S, Kapil H. Surgical management of the bilateral maxillary buccal exostosis. *J Indian Soc Periodontol* 2015; 19(3):352–55.
3. Suzuki M, Sakai T. A familial study of torus palatinus and torus mandibularis. *Am J Phys Anthropol*. 1960;18:263–72.
4. Reichart PA, Neuhaus F, Sookasem M. Prevalence of torus palatinus and torus mandibularis in Germans and Thai. *Community Dent Oral Epidemiol*. 1988;16:61–4.
5. Eggen S. Torus mandibularis: An estimation of the degree of genetic determination. *Acta Odontol Scand*. 1989;47:409–15.
6. King DR, Moore GE. An analysis of torus palatinus in a transatlantic study. *J Oral Med*. 1976;31:44–6.
7. Eggen S, Natvig B. Variation in torus mandibularis prevalence in Norway. A statistical analysis using logistic regression. *Community Dent Oral Epidemiol*. 1991;19:32–5.
8. Haugen LK. Palatine and mandibular tori. A morphologic study in the current Norwegian population. *Acta Odontol Scand*. 1992;50:65–77.
9. Matthews GP. Mandibular and palatine tori and their etiology. *J Dent Res*. 1933;13:245.
10. Johnson OM. Tori and masticatory stress. *J Prosthet Dent*. 1959;9:975–7.
11. Eggen S, Natvig B. Relationship between torus mandibularis and number of present teeth. *Scand J Dent Res*. 1986;94:233–40.
12. Topazian DS, Mullen FR. Continued growth of a torus palatinus. *J Oral Surg*. 1977;35:845–6.

13. 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.
14. Bouquot JE, Gundlach KKH. Oral exophytic lesions in 23,616 white Americans over 35 years of age. *Oral Surg Oral Med Oral Pathol* 1986;62:284-91.
15. Jaikittivong A, Langlais RP. Buccal and palatal exostosis : Prevalence and concurrence with tori. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2000;90:48-53.
16. Bathla S, editor. In: *Periodontics Revisited*. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; 2011. Resective osseous surgery; pp. 366–70.
17. Blaggana A, Blaggana V. Surgical Management Of An Atypical Case Of Multiple Mandibular Exostoses: A Case Report . 2010;5(1):4–9.
18. Basha S, Dutt SC. Buccal-sided mandibular angle exostosis-A rare case report. *Contemp Clin Dent.* 2011;2:237–9.
19. Shafer WG, Hine MK, Levy BM. 4th ed. Philadelphia: WB Saunders; 1983. *Textbook of Oral Pathology*; pp. 674–718.