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Treatment of Maxillary Buccal Exostosis – Case Report

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ABSTRACT:

Buccal exostoses are non-malignant, bony growth on the facial aspect of the maxilla and very rarely on, the mandible. Interplay between environmental and genetic factors is generally considered as the etiology of these lesions. Usually these growths are asymptomatic, but if enlarges across several centimeters they can cause periodontal disease in neighbouring teeth, ulceration of the overlying mucosa and esthetic problems in anterior region too. It has been observed that there is a direct relationship between age of the person and frequency of occurrence of these lesions. They begin to develop in the early adulthood and may slowly enlarge over the years. ..Proper diagnosis is made only after thorough evaluation. The following paper presents a unique case of maxillary buccal exostosis in canine region and its surgical management.

Keywords: Buccal exostosis, benign, aesthetics, periodontal disease.

INTRODUCTION:

Exostosis is a benign outgrowth of the bone. They can be nodular, pedunculated or flat and arise from the cortical bone, mainly found in the maxilla and less frequently on mandible. Multiple exostoses can also occur in the same individual. It is considered that this it can occur in response to the stresses applied to the bone. The aetiologic factors mostly are masticatory hyperfunction (Haugen, L.K.1992; Kerdpon, D et al. (1999), Reichart, PA.et al (1988)) environmental factors, genetic factors and continuous growth. (Eggen, S. et al.,1991) Interplay of multifactorial genetic and environmental factors has been considered as an aetiology of these growths, recently. (Topazian, D.S.et al.1977; Seah, YH. (1995), Gorsky,M.et al.(1996))

They are of 2 types – buccal exostosis and palatal exostosis. 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. (Chandna, S. etal.,2015)

According to genetic theory the environmental factors need to reach a threshold level before a genetically susceptible person develops the trait, making the etiology multifactorial.

They often start to grow in early adulthood and slowly get bigger over time. Although they rarely grow to be many centimetres wide, they are self-limiting and harmless. When damaged, buccal exostoses can sometimes make it difficult to place dentures or do other dental hygiene tasks. Sonnier, K.E. (1999); Jain, N. et al., 2020. The case study that is shown

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here demonstrates the presence of a unilateral exostosis on the buccal aspect of the maxilla in the canine region, as well as its effective therapy.

CASE REPORT:

A 28-year-old male patient complained of swelling in the right upper maxillary anterior region for a period of one year at the Santosh Dental College in Ghaziabad's Department of Periodontics and Oral Implantology. Patient's family and medical history were not important. Examination outside of the mouth revealed a symmetrical face and convex profile. The patient had fair overall oral hygiene based on intraoral clinical evaluation. Gingival enlargement was seen in right canine region of the maxillary arch. On palpation it was found to be hard in consistency, measuring about length of 20mm 25mm and width 5 mm.(**Fig 1)**

Fig 1. Exostoses irt to 13

It was covered with thin mucosal tissue and did not interfere with speech, chewing, or other oral functions but was aesthetically displeasing.

TREATMENT:

Complete oral prophylaxis was done in the patient. Post phase I therapy, patient was advised mouth rinses with 0.12 chlorhexidine gluconate. Patient was made aware of risks and benefits of surgery; an informed consent was obtained. The area to be operated was anaesthetized using 2% lignocaine hydrochloride with adrenaline (1:100000).

Full thickness mucoperiosteal crevicular flap was reflected with periosteal elevator after giving incisions with 15 number blade. To gain proper access to the exostosis vertical incisions were also given on both ends of the flap**..(Fig 2)**

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Fig 2- Mucoperiosteal flap raised

Fig 3- Resective osseous surgery done i.r.t 13

After debridement of the operating site, resective osseous surgery was Performed. 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. It was followed by radicular blending to gradualize the bone over the root surface. Subsequently flattening of interproximal bone was done**. (Fig 3)**

Fig 4- Sutures placed

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The flap was then secured and sutured with 3-0 silk on the site. (**Fig 4**) post-operative instructions were given and patient was prescribed 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 was reported by the patient.

DISCUSSION:

Exostosis refers to non-pathological bone protuberances that develop from cortical bone, as well as rarely from spongy layer. Men are more likely than women to have exostoses, according to a prevalence ratio. Researchers believe that these discrepancies are influenced by genetic factors. The size of the exostoses that form in young people is often very small, but they progressively develop as the person ages and becomes more susceptible to occlusal stress. Exostoses become less common as people get older because of edentulism (Eggen, S.et al.,1991). Exostoses can appear as tiny or big nodules, with small nodules typically having several nodules and large nodules having a single, uncommon lesion. Small and many nodules are the most common forms. Exostoses typically occur in relation to the third upper molar and are bilateral and symmetrical. They typically extend from the mesio-palatine aspect of the first molar to the palatine surface of the maxillary tuberosity. Due to food retention and hygiene issues, these lesions, if left untreated, might lead to periodontal disorders. (S. Chandna et al., 2015; N. Jain et al., 2020).

Most exostoses are identified clinically coupled with standard radiographic interpretations, such as periapical and panoramic radiographs, and typically do not require a biopsy.

In order to properly adapt a mucoperiosteal flap during surgery, to properly affect periodontal conditions, to allow proper adaptation of a mucoperiosteal flap during speech or chewing, to become painful and ulcerated (due to constant trauma), to interfere with dental prosthesis fitting due to aesthetic need, or to be used as a donor source for bone grafts, treatment of exostoses is necessary.

Differential diagnoses for exostoses may involve periosteal osteosarcoma, chondrosarcoma, mature ossifying fibroma (expanding cortical lamina), osteoma, osteochondroma, or osteoma. Osteomas are developing tumours that are benign and stimulate the growth of dense, compact, or coarse cancellous bone, typically in the endosteal or periosteal regions.

In the above illustrated case report, there was no relevant family and medical history of the patient. Clinical findings of smooth projections on the right labial surface of the maxilla in the canine region was aesthetically displeasing to the patient and also blanching of the overlying mucosa was seen. In the present case, routine oral prophylaxis alone didn't reduce the gingival enlargement as it was a bony enlargement, thus necessitating surgical intervention.

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CONCLUSION:

Thus, resective osseous surgery is a viable treatment option in the management of buccal exostosis and helps to achieve normal bony contours without any complications. In the present case informed consent was taken from the patient, procedure was uneventful and patient was satisfied with the treatment outcome

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