



GENERALISED MULTIPLE BONY EXOSTOSES IN BOTH THE JAWS-A RARE CASE REPORT WITH REVIEW OF LITERATURE

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ABSTRACT

In the present Maxillary and mandibular exostoses are common localized overgrowths of the bone. They are benign and are thought to be reactive or developmental in origin. These exostoses need to be accurately distinguished from the other more diagnostically significant lesions, notably from the bony osteomas. The aetiology of exostosis has been investigated by different authors, but no consensus has been reached so far. We are reporting a rare case of multiple exostoses of the maxillary and mandibular jaw bones in 68 year old male patient.

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INTRODUCTION

An exostosis is a benign, localized, peripheral overgrowth of bone of unknown etiology. It may be a nodular, flat or pedunculated protuberance located on the jawbones of alveolar surface (Smitha and Smitha, 2014). These are also known referred as benign bony hamartomas. They are generally asymptomatic and consist of mature cortical and trabecular bone (Sathya Kannan *et al.*, 2015). In the jaws, depending on the anatomic location they are named as Torus Palatinus (TP), Torus Mandibularis (TM), or buccal bone exostoses (BBE), TP that occurs along the midline of the hard palate is a sessile, nodular mass of bone. TM is a bony overgrowth located on the lingual aspect of the mandible, most commonly seen in the canine and premolar areas. BBE occurs along the buccal aspect of the maxilla or mandible, usually in the premolar and molar areas. Palatal exostoses are found on the palatal aspect of the maxilla, and the most common location is the tuberosity area. Multiple exostoses occasionally occur in the same individual. They may appear as isolated, discrete bony overgrowths on the facial aspect of alveolar bone in young, dentate subjects or as

Somewhat less usually found multiple exostosis in maxilla (torus palatinus) and in mandible (mandibular tori) (Smitha and Smitha, 2014; Chaudhry *et al.*, 2000). This article has reported a case of multiple bony exostosis which was present in the labial part of the maxillary and mandibular anterior region also in buccal part of maxillary and mandibular posterior region which is a rare presentation.

Case Report

A sixty eight year old male patient reported to the hospital with chief complaint of pain in his left upper back tooth region for past two weeks. History reveals that patient underwent extraction of left upper back tooth (27) three weeks ago and the tooth was broken into pieces following which patient had dull persistent pain localised in nature which gets aggravated on chewing food. Medical history reveals that the patient is a known hypertensive and under medication for past five years. On clinical examination, there is root stump in relation to 27. Tenderness was present in relation to 27.36 and 46 were clinically missing. Spacing was evident between 11 and 21. Presence of generalised supragingival calculus noted On examination of alveolar mucosa, presence of multiple, discrete bony prominences evident on the right and left buccal and

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facial maxillary and mandibular region involving both anterior and posterior region giving rise to lobulated appearance. The bony outgrowths were non tender and hard in consistency on palpation (Fig 1& Fig 2).

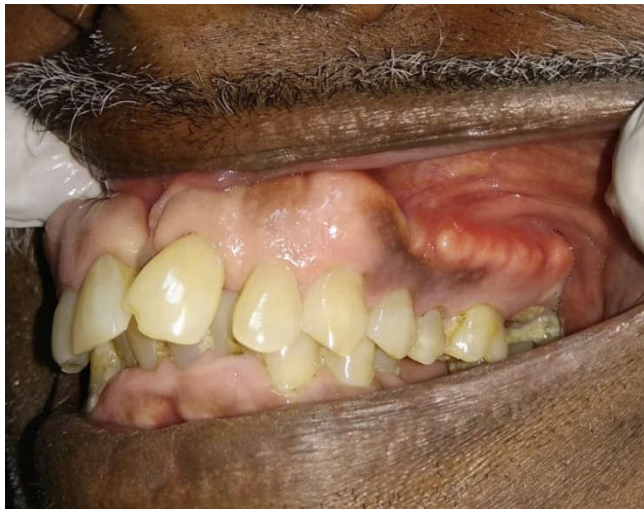


Fig.1. Showing exostoses in maxillary arch



Fig 2. Showing exostoses in mandibular anterior region



Fig. 3. IOPA instead of iopa



Fig 4. OPG

Patient did not have any discomfort. Based on the history, clinical examination, provisional diagnosis of Root stump in relation to 27 was made. Diagnosis of multiple bony exostoses was given for the bony outgrowth. Intraoral periapical radiograph (IOPA) and Orthopantomogram were taken. IOPA of 27 region revealed presence of root stump in relation to 27. OPG revealed dental findings which were consistent with clinical findings. As the exostosis was small, they were not visualised in OPG. (Fig 3 and Fig 4) A final diagnosis of root stump in relation to 27 was made and Generalised Multiple bony exostoses were given for bony outgrowth. A detailed systemic examination could not be done as they were totally asymptomatic and the patient was not willing for any treatment of exostoses.

DISCUSSION

Multiple exostoses are classically seen as a series of discrete swellings along the buccal/facial aspect of the alveolar bone. With clinical experience the occurrence of exostoses is limited when compared with that of tori (Mansi Bansal *et al.*, 2013). However the information concerning their incidence is not available. The aetiology of multiple exostosis remains unknown, although an increased occlusal loading of the teeth in the involved areas has been suggested (Chaudhry *et al.*, 2000). The most widely accepted hypotheses are: nutritional disorders, heredity, mastication hyperfunction, and environmental factors (Chaudhry *et al.*, 2000). The quasi continuous genetic or threshold theory has been considered as the best explanation for etiology of tori and exostoses. This theory states that the environmental factors must first reach a threshold level before the genetic factors can express themselves in an individual (Jainkittivong and Langglais 2000). A correlation between the presence of tori and exostoses in patients with parafunctional habits like clenching and grinding has also been demonstrated. Since exostoses appears during the middle phases of life functional factors like masticatory stress have also been considered to play a major role for its occurrence. Eggen and Natvig (1999) proposed that the presence of tori was 30% genetic and 70% environmental with respect to masticatory stress (Eggen and Natvig 1999). Other causative factors include dietary habits (eating supplements or food rich in calcium) and nutritional disturbances (vitamin deficiencies) (García-García *et al.*, 2010). The highest prevalence was found in the adults who were aged 60 years or more (21.7%), as compared to the group which was aged 13 to 19 years (7.8%). The other age groups of 20 to 29 years, 30 to 39 years, 40 to 49 years and 50 to 59 years demonstrated similar frequencies (Pynn *et al.*, 1995). Our patient is also aged 60 years suggesting that the multiple exostoses is prevalent in this age group. There is a higher

prevalence of exostoses in the male subjects (Pynn *et al.*, 1995). The patient reported in our case is also being male. Patients with exostoses rarely complain of unaesthetic appearance, speech difficulties due to limited tongue movement and food lodgement resulting in malodour. Certain patients may fear that the lesion is cancerous. Patients may experience trauma or ulceration when masticating hard and sharp food since the soft tissue covering the bony protuberances is reported to be thinner than the surrounding mucosa (García-García *et al.*, 2010). In our case, patient was not aware of multiple exostosis and did not report any difficulties. The diagnosis of exostoses is done by simple clinical examination. Radiographs are required in situations where the bony protuberances are extremely large, or multiple, or vary in consistency to rule out underlying bone pathology. Radiographs may show normal bone pattern or a slightly radio dense image with a higher density than that of the surrounding bone (García-García *et al.*, 2010). Radio graphically, they present in the maxilla as well-delimited radiopaque masses, many times hiding the details of the teeth and the maxillary sinus (Seah, 1995). In the mandible, large exostoses simulate the mandible lesions such as bone deformities, osteomyelitis and the Gardner's syndrome; but anamnesis and appropriate laboratory tests can easily provide the definite diagnosis (Siegel and Pappa, 1986). But in our case, they were not seen in the radiographs, in other words we did not have any radiographic findings as the masses were not calcified enough to be visualised in a radiograph. Distinction between these bony overgrowths and osteomas (exosteal) is often difficult to determine. Other differential diagnoses include organized subperiosteal hematoma, a mature ossifying fibroma with expansion of the cortical plate, and early osteosarcoma or chondrosarcoma (Sathya, 2012; Sathya Kannan *et al.*, 2015). Bone disorders like sclerosteosis, high bone mass trait and fibrous dysplasia should also be excluded. Patients with multiple bony growths or lesions not in the classic torus or exostoses locations have to be evaluated for Gardner's syndrome. Features of this syndrome which inherited in an autosomal dominant pattern include multiple osteomas (especially of skull), sebaceous cysts and soft tissue tumors of the skin, intestinal polyposis and multiple impacted supernumerary teeth. This syndrome is considered as a precancerous condition; as the intestinal polyps frequently located in the colon and rectum if left untreated develop into colorectal adenocarcinoma. In our case, clinically the patient is apparently healthy with no other skin or bone lesions, and the orthopantomogram of the jaws did not show any impacted or unerupted extra teeth. However, follow-up visits were advised to allow constant surveillance.

Conclusion

A proper history and accurate diagnosis of multiple exostosis is important and the patients with such multiple exostoses should be under regular follow up and evaluation of Gastrointestinal system for intestinal polyps to rule out Gardeners syndrome is mandatory. If patients are concerned about the esthetics, further reduction of bony overgrowth can be done surgically.

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