

Management of Periodontal Vertical Defects In Aggressive Periodontitis Cases Due to Extraction of Mesiodens Using Synthetic Bone Graft Material: A Clinical Study

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ABSTRACT

Background: Aggressive periodontitis was first described by Baer in 1971. It is found to be associated with several primary and secondary feature and few case reports showed its possible relation to supernumerary tooth. This is study of unusual association of mesiodens with aggressive periodontitis. International workshop Consensus indicated that not all primary and secondary features be present for diagnosis of aggressive periodontitis and it can be made based on radiographic, clinical and history¹⁴. In present case diagnosis was based on history, clinical examination and radiographic features.

Materials and Methods: Patients reporting to the dept of dentistry VIIMS Pawapuri with Aggressive periodontitis and few cases with the findings of mesodense during a period of 3 years.

Results: Management of supernumerary teeth depends on the type and position of the tooth. Immediate removal of mesiodens is usually indicated in the following situations; inhibition or delay of eruption, displacement of the adjacent tooth, interference with orthodontic appliances, presence of pathologic condition, or spontaneous eruption of the supernumerary tooth. Bone grafting can be a useful tooth to manage these conditions.

Keywords: Aggressive Periodontitis, Mesodens, Periodontal Therapy, Bone Graft.

INTRODUCTION

Aggressive Periodontitis is a form of periodontal disease characterized by deep pockets and advanced alveolar bone loss in the adolescents and young adult, without any associated systemic disease in less than 30 years old or in older patient. Aggressive periodontitis was first described by **Baer** in 1971. It is found to be associated with several primary and secondary feature and few case reports showed its possible relation to supernumerary tooth. **Eley** in 1974 was first to describe this association. In 1995, **Oddell** and **Hughes** hypothesized on possible association between them but this possibility is speculative.

Familial tendency and environmental factors have been found to play role in etiology of aggressive periodontitis and dental developmental anomalies. But still there is no clear explanation for their association. Differences in race, population and gender have been observed in prevalence of both entities^{1,8,9,11}.

This is study of unusual association of mesiodens with aggressive periodontitis. International workshop Consensus indicated that not all primary and secondary features be present for diagnosis of aggressive periodontitis and it can be made based on radiographic, clinical and history¹⁴. In present

Received: Jan. 17, 2018; Accepted: Feb. 10, 2018

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case diagnosis was based on history, clinical examination and radiographic features.

MATERIALS AND METHODS

Patients reporting to the dept of dentistry VIIMS Pawapuri with Aggressive periodontitis and few cases with the findings of mesodense during a period of 3 years. **Clinical Case Management**

Patients reported to Department Of Dentistry VIIMS Pawapuri, Bihar with the chief complain of teeth getting drifted in upper front region. Taking in consideration a case of female patient, she gave history that she noticed this drifting being started two years back with its progressive increase. She was non smoker with insignificant medical history. Her clinical examination revealed minimal presence of plaque and calculus and clinical inflammation.(plaque score?) She reported positive family history regarding early loss of teeth.

Clinical examination revealed deep pockets in relation to 15, 16,25,26,27,35,36,37, 45,46,47 and 11, 21. Tooth 11 showed Grade 1 Miller's mobility with disto-labial position compared to adjacent teeth. Midline diastema was present with papilla penetrating Upper Labial Frenum in the same area. Her history revealed presence of spacing between 11 and 21 two years back which increased over period of time with progressive migration of 11. She got composite filling done in the same area as an attempt for closure but did not get any benefit as migration of tooth continued.

For radiographic examination Orthopantomogram (OPG), Intra-oral Peri apical Radiograph(IOPAR) by Long Cone Paralleling technique and Occlusal Radiograph was advised. Radiographic examination revealed severe bone loss in 15, 16,25,26,27,35,36,37, 45,46,47 and 11, 21. Their was presence of deep vertical defect between 11 and 21. OPG also showed presence of Extra tooth between 11 and 21. It was present mesial to 21 which was confirmed by Occlusal and IOPA. Severe bone loss and tooth migration in relation to 11 and 21 was attributed to aggressive nature of disease with high frenum and mesiodens acting as predisposing / precipitating factor. Severity of bone loss relative to age of patient suggested rapid rate of progression of disease.

As part of preliminary phase Scaling & Root Planing was performed with oral hygiene instructions and Antimicrobial agent i.e. 400mg METRONIDAZOLE and 500mg AMOXICILLIN three times day for 7 days was prescribed. All the teeth were vital. Open Flap Debridement of all pockets were done. Considering the close proximity of mesiodens with 21 and risk of losing large amount of bone after its removal and associated morbidity of 21 and 11, it was planned to wait till its natural exfoliation. The patient is kept for follow up with sequential photographs and radiographs.

RESULTS

Management of supernumerary teeth depends on the type and position of the tooth. Immediate removal of mesiodens is usually indicated in the following situations; inhibition or delay of eruption, displacement of the adjacent tooth, interference with orthodontic appliances, presence of pathologic condition, or spontaneous eruption of the supernumerary tooth. Bone grafting can be a useful tooth to manage these conditions.

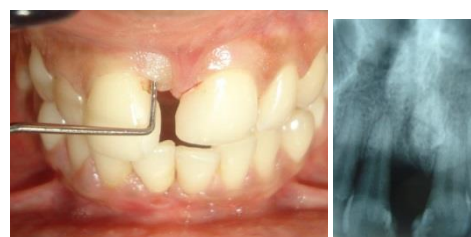


Fig 1: Peroperative view.



Fig 2: Treatment procedure



Fig 3: Post operative

DISCUSSION

The occurrence of mesiodens in primary dentition is quite rare despite the fact that in permanent dentition it has even been considered as the most common dental abnormality¹³. It has been reported that in 82% of the cases it occurs in the maxilla, specifically in the premaxillary region³. Morphologically, mesiodens may have heterogeneous forms. Three common types; namely, conical or peg shaped, tuberculate and supplemental(tooth like) have been reported, of which the conical form is the most common type^{2,4,12}.

Various complications might occur as a result of the presence of mesiodens, including delayed eruption, crowding, spacing, impaction of permanent incisors, abnormal root formation, alteration in the path of eruption of permanent incisors, median diastema, cystic lesions, intraoral infection, rotation, root resorption of the adjacent teeth or even eruption of incisors in the nasal cavity⁶.

Displacements of permanent maxillary incisors is the most common complication. Seddon et al. reported that the presence of supernumerary teeth might cause displacement or rotation of adjacent teeth in 28% to 63% of the cases⁷. It is discussed in the literature that the sooner the diagnosis the better the prognosis. In permanent dentition, detection of supernumeraries needs thorough clinical and radiographic examination. Panoramic, maxillary occlusal and periapical radiographs are recommended to assist the process of diagnosis of mesiodens. Although panoramic radiograph is the best screening tool, clarity

in the midline region is still limited for the diagnosis of mesiodens. For precise view in the incisor region, anterior occlusal or periapical radiograph is also helpful. Management of supernumerary teeth depends on the type and position of the tooth. Immediate removal of mesiodens is usually

indicated in the following situations; inhibition or delay of eruption, displacement of the adjacent tooth, interference with orthodontic appliances, presence of pathologic condition, or spontaneous eruption of the supernumerary

tooth. Munns stated that the earlier the mesiodens is removed, the better the prognosis¹⁰. It has also been recommended to keep unerupted symptomless mesiodens, which do not affect the dentition. These teeth, which are usually found by chance, are better left in place under observation⁵. Considering risk associated with open extraction in our case we preferred to wait and watch.

CONCLUSION

Presence of supernumerary teeth is common and it is important for dentist to have knowledge for the same. Early diagnosis and prompt treatment helps to prevent any complication arising from the same. In our case clinical examination with radiograph and history helped in treatment planning of the patient.

CONFLICT OF INTEREST

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

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