ORIGINAL RESEARCH PAPER

Volume-7 | Issue-7 | July-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CONSERVATIVE APPROACH FOR REHABILITATION OF MUTILATED DENTITION- A CASE REPORT

Dental Science

Dr Jayant Ramdas Ambulgekar MDS (Periodontics) Reader, Dept of Periodontics, CSMSS Dental College & Hospital, Kanchanwadi, Aurangabad, Maharashtra, India.

Dr Prasad Adhapure* MDS (Prosthodontics) Reader, Dept of Prosthodontics, CSMSS Dental College & Hospital, Kanchanwadi, Aurangabad, Maharashtra, India.*Corresponding Author

Dr Dhananjay Ghunawat MDS (Endodontics) Reader, Dept of Conservative Dentistry & Endodontics, MA Rangoonwala Dental College & Research Center, Pune

Dr Akansha Baheti Intern, Government Dental College & Hospital, Mumbai, Maharashtra, India.

ABSTRACT

The relationship between periodontal health & the restoration of the teeth is intimate & inseparable. For restorations to survive long term, the periodontium must remain healthy so that the teeth are maintained. For the periodontium to remain healthy, restorations must be critically managed in several areas so that they are in harmony with their surrounding periodontal tissues. To maintain or enhance the patient's esthetic appearance, the tooth/ tissue interface must present a healthy natural appearance, with gingival tissues framing the restored teeth in a harmonious manner. This clinical report describes a sequential step by step procedure done for the patient having severely worn dentition.

KEYWORDS

Periodontal Health, Restoration, Severely Worn Dentition

Introduction: The vertical dimension of occlusion (VDO) is constant throughout an individual's life, and any alteration in this distance will interfere with the physiology of the masticatory system, although many authors assume that patients can adapt to such changes.[1,2]

Multiple techniques have been proposed to quantify the VDO, including the use of pre-treatment records, incisor height measurements, phonetic evaluation, patient relaxation, assessment of facial appearance, radiographic evaluation, and neuromuscular evaluation.[3] Each of these techniques has proven useful; however, there have been no scientific assessments of the accuracy of these methods.[4]

Restoration of the severely worn dentition is one of the most challenging procedures in dentistry. For successfully restoring and maintaining the teeth, one must first assess the exact reason which has led to destruction. Tooth wear can result from abrasion, attrition, and erosion.[5-7]Evaluation and diagnosis should account for the patient's diet, history of eating, gastric disorders, along with the present state of the occlusion. Behavioral factors that may be contribute to parafunctional habits and/or nocturnal bruxism is also important to understand and manage in order to successfully restore and maintain a healthier dentition.[8] Emphasis must be placed on the evaluation of occlusal prematurities preventing condylar seating into the centric relation position. Severe tooth wear leads to alteration in vertical dimension of occlusion (VDO). In many cases the VDO is maintained by the tooth eruption and alveolar bone growth. . As teeth are worn out, the alveolar bone undergoes an adaptive process and compensates for the loss of tooth structure to maintain the VDO.

Few studies have reported on the influence of increasing the VDO by fixed or removable appliances. Fixed appliances are more reliable and comfortable for the patient[9-11]. The most commonly reported symptoms of an altered VDO are grinding and clenching, which have a tendency to resolve within 1 to 2 weeks. Increasing the VDO by use of a removable appliance may result in altered development, and produce symptoms including discomfort from wearing a splint, difficulties with phonetics, and joint and muscle disorders.[12-14] Approaches using removable appliances present significant complications, and have poor patient compliance.

This report describes a case of severely worn anterior teeth and early loss of posterior teeth in the mandible, which resulted in restricted restorative space.

Case Report: A 58 year old woman reported to the Ambulgekar Dental Clinic with the chief complaint of inability to chew food and poor esthetic appearance. (Fig. 1) The medical history was non – contributory. On oral examination, it was seen that patient had severely worn dentition with multiple missing teeth in both the arches. The patient was advised OPG (Fig.2) & treatment plan was devised in such a way that patient will undergo extraction of non- restorable teeth & root canals followed by permanent crowns of remaining teeth. The treatment details are as follows:

1- Surgical extraction with tooth no. 13,14,17, 26,28 & 45
2- Root canal treatment with 11,12,16, 21,22,23,27,31-35,41-44
3- Core build with 11,12,21,22,23, 33-35, 42-44 (Fig. 3)
4- PFM crowns with upper & lower arch (Fig 4,5)

Discussion: In full mouth rehabilitation, severe wear cases present many challenges to the dentist, including gaining the space to create restorations to satisfy the patient's aesthetic desires, while also achieving occlusal and function that are essential for long-term success. A variety of techniques may be used in simultaneous constructions to obtain complete arch dies and mounted casts. These techniques assist in concomitant laboratory construction of the units. When all of the prepared teeth are on a single articulator, there is flexibility in developing the occlusal plane, occlusal theme, embrasures, crown contour, and esthetics. The chairside disadvantages include unpredictable patient visits, full arch anesthesia (if required), full arch chairside treatment restorations, and possible loss of the vertical dimension of occlusion. Other disadvantages are the need for accurate cross-arch multiple tooth impressions and/or the need for transfer techniques to fabricate full arch working casts.

Conclusion: This case report describes full-mouth rehabilitation in a restricted interocclusal space with severely worn teeth and early loss of posterior mandibular teeth. This approach provided a safe and conservative route to meet the patient's requirement. During the one-year follow up, there were no clinical complications or symptoms, or signs of temporomandibular disorder. We successfully met the treatment goals of rehabilitation of chewing function and improved smiling appearance.

Legends of Figures:

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

References

1- Schuyler C. Problems associated with opening the bite which would contraindicate it as a common procedure. J Am Dent Assoc 1939; 26: 734-40.
2- Tench R. Dangers in reconstruction involving increase of the vertical dimension of the lower third of the human face. J Am Dent Assoc 1938; 25: 566-70.
3- Abduo J, Lyons K. Clinical considerations for increasing occlusal vertical dimension: a review. Aust Dent J 2012; 57: 2-10.
4- Rivera-Morales WC, Mohl ND. Relationship of occlusal vertical dimension to the health of the masticatory system. J Prosthet Dent 1991; 65: 547-53.
5- Grippo JO, Simring M, Schreiner S. Attrition, abrasion, corrosion and abfraction revisited: A new perspective on tooth surface lesions. J Am Dent Assoc 2004 135(8):1109-1118.
6- Verrett RG. Analyzing the etiology of an extremely worn dentition. J Prosthodont 2001; 10(4):224-233.
7- Litonjua LA, Andreana S, Bush PJ, Cohen RE. Tooth wear: Attrition, erosion, and abrasion. Quint Int 2003; 34(6):435-446.
8- Neff P. Trauma from occlusion. Restorative concerns. Dent Clin North Am 1995; 39(2):335-354
9- Berry DC, Poole DF. Attrition: Possible mechanisms of compensation. J Oral Rehabil 1984; 3: 201-6.
10- Richard LC. Dental a¬ttrition and craniofacial morphology in two Australian aboriginal populations. J Dent Res 1985; 64:1311-5.
11- Murphy T. Compensatory mechanisms in facial height adjustment to functional tooth attrition. Aust Dent J 1959; 5: 312-23.
12- Gough MB, Setchell DJ. A retrospective study of 50 treatments using an appliance to produce localized occlusal space by relative axial tooth movement. Br Dent J 1999; 187: 134-9.
13- Burnett CA, Clifford TJ. A preliminary investigation into the effect of increased occlusal vertical dimension on mandibular movement during speech. J Dent 1992; 20: 221-4.
14- Carlsson GE, Ingervall B, Kocak G. Effect of increasing vertical dimension of the masticatory system in subjects with natural teeth. J Prosthet Dent 1979; 41: 284-9.