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Interdisciplinary approach towards full mouth rehabilitation-A case report

Angitha K.

Assistant Professor, Dept. of Prosthodontics, Anjarakandy Dental College, Kannur

***Corresponding Author:**
Email: drankithak@gmail.com

Abstract

Full mouth rehabilitation entails the performance of all the procedures necessary to produce a healthy, esthetic, well-functioning, self-maintaining masticatory mechanism. Full mouth rehabilitation cases are one of the most difficult cases to manage in dental practice. It is basically a set of procedures that are aimed at correcting an improper bite position as well as restoring chipped or worn out teeth. This case report describes a patient with worn-out dention in lower anterior region, bilateral missing of lower posterior teeth and in maxillary arch missing 22, 24.Occlusal rehabilitation done with Pankey Mann Schyuler philosophy. This case reports that a satisfactory clinical result was achieved by restoring the vertical dimension with an improvement in esthetics and function.

Keywords: Aesthetic, Masticatory. Tooth Wear; Vertical Dimension, Occlusal Rehabilitation, Face-Bow, Restoration, Worn out Teeth, Function, Philosophy.

Introduction

Full mouth rehabilitation entails the performance of all the procedures necessary to produce a healthy, aesthetic, well-functioning, self-maintaining masticatory mechanism.[(1)] Full mouth rehabilitation cases are one of the most difficult cases to manage in dental practice.[(1)] It is basically a set of procedures that are aimed at correcting an improper bite position as well as restoring chipped or worn out teeth. Goals of full mouth rehabilitation include: 1). Freedom from disease in all masticatory system structures 2). Maintain healthy periodontium 3). Stable TMJ'S 4). Stable occlusion 5). Maintain healthy teeth 6). Comfortable function 7). Optimum esthetics.[(1)] Philosophy of various occlusal schemes include: 1). Gnathological scheme 2). Area of freedom centric 3). Yuodelis scheme of advanced periodontitis cases 4). Nyman and Lindhe scheme for extremely advanced periodontitis cases 5). Pankey – Mann Schyuler philosophy 6). Twin stage procedure.[(2)] one of the most practical philosophies for occlusal rehabilitation is the rationale of treatment originally organized by Dr. L. D. Pankey**.**

Sequential steps to accomplish goals in PMNS philosophy are[(2)]:-

1) Examination, diagnosis, treatment planning and prognosis.
2) Harmonization of anterior guidance for the best possible esthetics, function and comfort.[(3)]
3) Selection of an acceptable occlusal plane and restoration of the lower posterior occlusion in harmony with anterior guidance in a manner that will not interfere with condylar guidance.[(3)]
4) Restoration of upper posterior occlusion in harmony with anterior guidance and condylar guidance.

Case Report

Male patient of 68yr age came to dept of prosthodontics complaining about worn-out dentition (Fig. 1). Intra oral examination revealed that complete wear-out dentition in mandibular region, with bilateral missing molars and 22, 24 is missing maxillary arch (Fig. 2). Patient oral prophylaxis status is satisfactory and he has moderate economic status. Radiographic examination moderate level of bone loss is seen. 31, 32, 34 and 35 worn out teeth in the lower anterior region needs endodontic treatment, post and core is also needed in 31 and 42 as the crown size is less, where as periodontal management is needed in 43, 44 and 45.

Interdisciplinary approach is done endodontically, periodontically and prosthodontically (Fig. 3). Endodontically root canal treatment done in 31, 32, 33, 34 to 35 & 41, 42, 43, 44 & 45. Fiber Post and core done in 31&42.after endodontic approach of treatment plan is completed periodontically crown lengthening is done in 43, 44 &45 and periodontal pack is given. Patient is recalled for checkup after two weeks and suture is removed (Fig. 4).

After two weeks maxillary and mandibular impression is taken in upper and lower arch with reversible impression material. Face bow is done with whip mix face bow transfer (Fig. 5). The face bow transfer was performed and maxillary cast is oriented on a semi adjustable articulator, interocclusal records were made and the mandibular cast is articulated. The adaptation of the occlusal plane analyzer to the upper member of the semi adjustable articulator using the Broad rick flag method described by Lynch and McConnell was done. The anterior survey point (ASP) was chosen on the midpoint of the distoincisal edge of the mandibular right and left canine, from which a long arc of 4inch radius was drawn on the flag with a compass. The posterior survey point (PSP) was located

on the anterior border of condylar element on articulator and a short arc was drawn from the posterior survey point on the flag to intersect the long arc of anterior survey point.[5] The needle of the compass was placed on the point of intersection of both the arc and a four inch radius line was drawn on the buccal surfaces of right mandibular teeth. Similar procedures were repeated for left mandibular teeth Broad ricks occlusal plane analysis is done to get occlusal line and tooth reduction line (Fig. 6).

Tooth preparation is done in 21, 23 & 25 in maxillary teeth. 3M ESPE gingival retraction cord is used to retract gingival before taking impression. Afer 2-3minutes gingival cord is washed off prior to impression taking (Fig. 7). Elastomeric impression is taken with elastomeric impression material in maxillary arch and cast is made. After that temporary crown is given. Mandible teeth preparation done 31, 32, 34 & 35 & 41, 42, 43, 44 & 45 (Fig. 8). 3M ESPE gingival retraction cord is used to retract gingival before taking impression. Afer 2-3minutes gingival cord is washed off prior to impression taking. Elastomeric impression is taken with elastomeric impression material in maxillary arch and cast is made temporary acrylic crown is given.

Metal trial done with pier abutment in maxillary arch from 21, 22, 23 and 24. Metal try in of bilateral precision attachment in lower is done (Fig. 9). Patient is happy with esthetic concern and bite. Pickup impression with male part is taken with addition silicon impression material (Fig. 10). Finally metal ceramic crown is done in maxillary arch and bilateral precision attachment with a lingual bar in mandibular teeth (Fig. 11).

Fig. 1

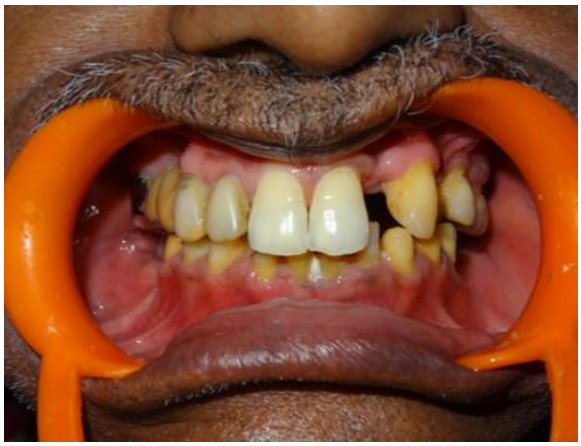

Fig. 2

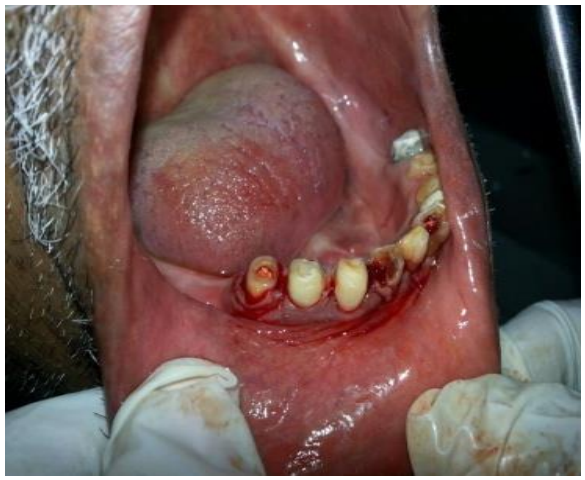

Fig. 3

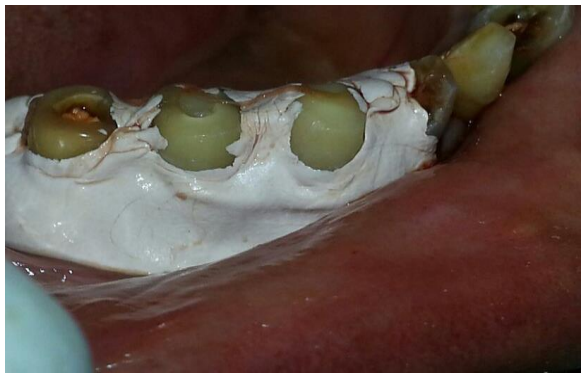

Fig. 4

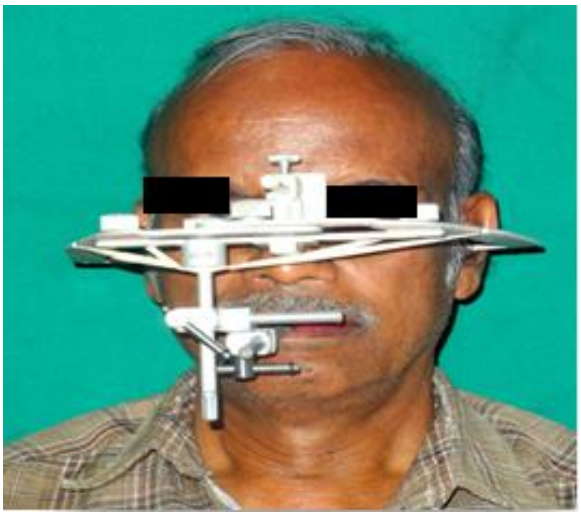

Fig. 5

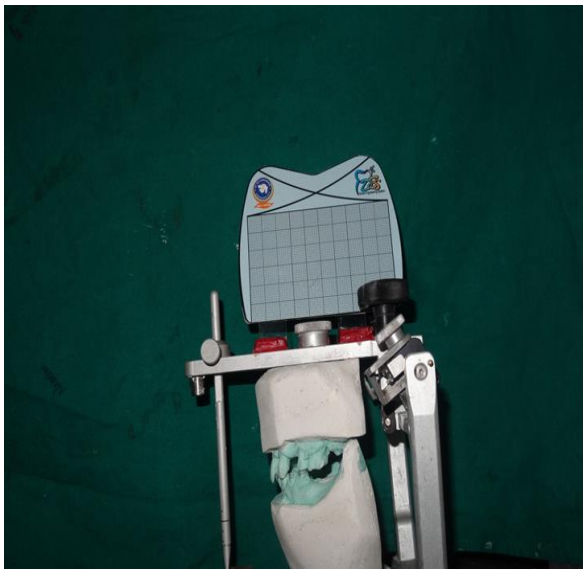

Fig. 6

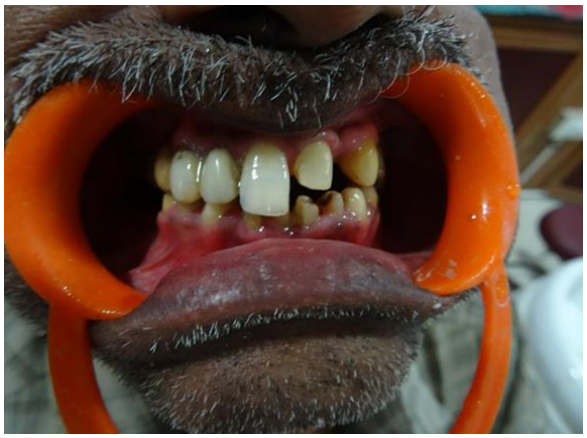

Fig. 7

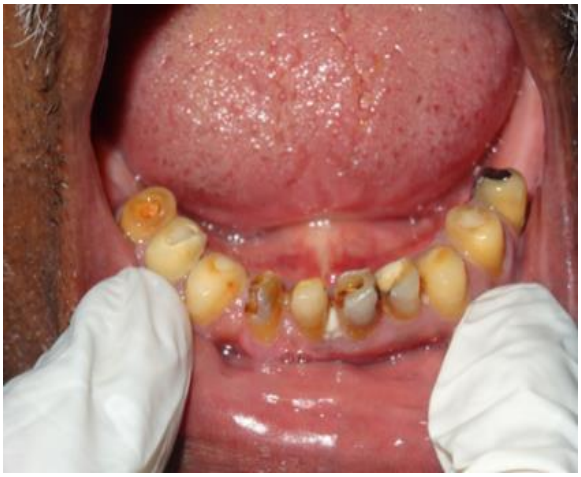

Fig. 8

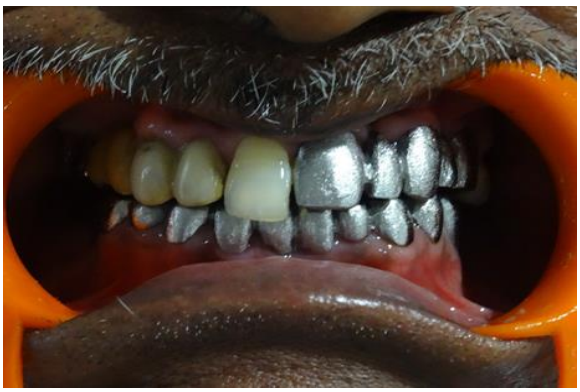

Fig. 9

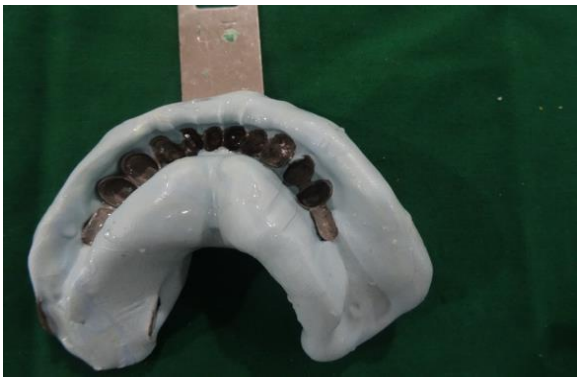

Fig. 10

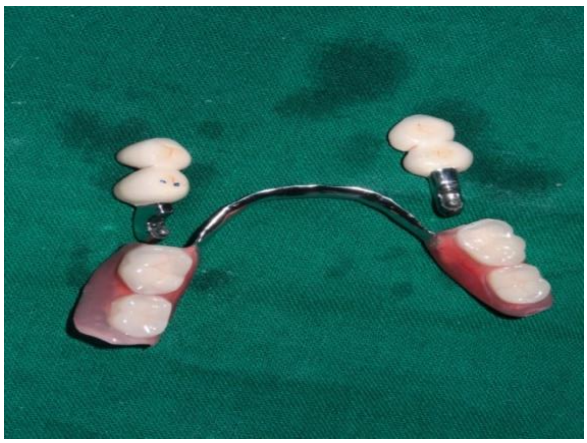

Fig. 11

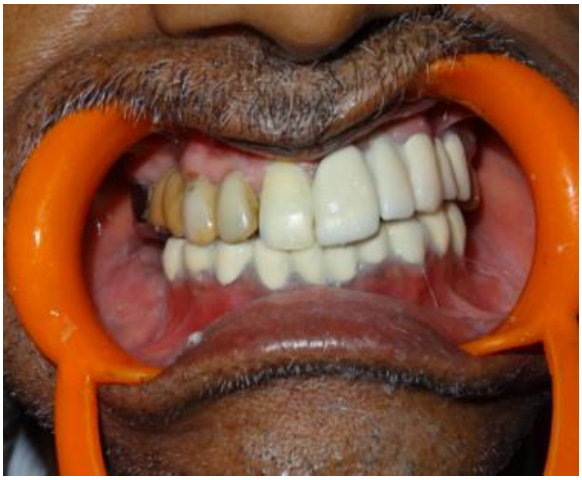

Fig. 12

Discussion

Full mouth rehabilitation accourding to pmns philosphy needs a systemic approach. Endodontically root canal treatment done in 31, 32, 33, 34 to 35 & 41, 42, 43, 44 & 45. Fiber Post and core done in 31 & 42. Periodontically crown lengthening is done in 43, 44 &45 and periodontal pack is given. The face bow transfer was performed and maxillary cast was oriented on a semi adjustable articulator, interocclusal records were made and the mandibular cast was articulated. Broad ricks occlusal plane analysis is done to get occlusal line and tooth reduction line. Tooth preparation is done in 21, 23 & 25 in maxillary teeth. Mandible teeth preparation done 31, 32, 34 & 35 & 41, 42, 43, 44 & 45. Metal trial done with pier abutment in maxillary arch from 21, 22, 23 & 24. Metal try-in bilateral precision attachment in lower is done teeth. After that Pickup impression with male part is taken with addition silicon impression material. Finally metal ceramic crown is done in maxillary arch and bilateral precision attachment with a lingual bar in mandibular teeth.

Conclusion

- A comprehensive study and practical approach must be directed towards reconstruction, restoration and maintenance of the health of the entire oral mechanism[(4)]
- The PMNS philosophy of occlusal rehabilitation can fulfil the most exacting and sophisticated demands, if the operator understands the goals of optimum occlusion, and it can achieve this with great simplicity and orderliness of technique.

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