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Full mouth rehabilitation—A case study

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Full mouth rehabilitation is a complex and multidisciplinary treatment approach aimed at restoring oral health, function, and esthetics in patients with extensive dental problems. In the present case, a 70- year-old female patient presented with multiple missing teeth and reduced vertical dimension of occlusion and wanted to resolve all her dental problems. After thorough clinical examination involving assessment of the dentition, periodontium, and temporomandibular joint, an individualized treatment plan was formed. The teeth with poor prognosis were extracted followed by correction of vertical dimension of occlusion using a night guard. The missing teeth were replaced with fixed partial dentures and the other teeth which required full coverage crowns were provided with crowns. The patient was satisfied with the results achieved and is presently attending follow-up appointments following the procedure. This article explains the process of full mouth rehabilitation of this patient in detail.

Keywords: full mouth rehabilitation, vertical dimension, occlusion, fixed partial dentures, crowns

Introduction

A 70-year-old female geriatric patient presented with multiple missing teeth, excessive wear, severe abrasion, erosion, and a reduced vertical dimension of occlusion. These issues had significantly impacted her ability to chew the food as well as affected the esthetics of her smile and face. After a comprehensive examination and treatment planning, full mouth rehabilitation was recommended to meet her specific dental needs. Full mouth rehabilitation ensures establishing both functional and biological efficiency. This involves the teeth, periodontium, temporomandibular joint, and the muscles of mastication functioning in synchronous harmony (1).

Past medical and dental history

When questioned, the patient revealed that she had multiple missing teeth and faced difficulty with chewing food because of severely worn-out and multiple missing teeth. The patient revealed that she had a history of diabetes and hypertension for the past 10 years and was on medication for them.

Case report

The following steps describe the process in which the patient's full mouth rehabilitation was performed.

Step 1: Initial examination

A complete detailed oral examination was done, which included evaluation of teeth, temporomandibular joint, and periodontal health with the help of various radiographs and dental models. The examination revealed multiple missing teeth, loss of vertical dimension of occlusion, and extensive attrition. There were only root stumps of the lower incisors. The upper anterior teeth also showed extensive damage. The right mandibular first molar was missing. The mandibular and maxillary posteriors were severely attrited, which had ultimately led to the loss of vertical dimension as seen in

Figures 1, 2. These findings formed the basis for developing an individualized treatment plan.

Step 2: Treatment planning

Based on the examination results, a customized treatment plan was devised. The plan was inclusive of a combination of extractions, restorative procedures, prosthetic solutions, and bite rehabilitation.

Step 3: Reestablishing vertical dimension and bite correction

Due to the significant wear and reduced vertical dimension of occlusion, it was crucial to reestablish the patient's bite and provide her with a stable and functional occlusion. Bite analysis and comprehensive planning were performed to determine the adequate increase in the vertical dimension needed and the ideal occlusal scheme. This was done with the help of face bow transfer of the positioning of maxillary arch followed by the mounting of lower arch with centric relation at the desired vertical dimension of occlusion, following which a mockup was done and also the patient was given a night guard to help her to adapt to the newly proposed vertical dimension of occlusion. This was done for a period of 20 days at the end of which no muscular tenderness or temporomandibular joint discomfort was observed.

FIGURE 1 | Intraoral (right).

FIGURE 2 | Intraoral (frontal).

Step 4: Surgical and restorative treatments

The surgical phase involved extraction of teeth with poor prognosis. The restorative phase focused on rebuilding her worn-out teeth and replacing the missing ones.

The following treatments were performed:

1. Extractions: The root stumps in 31, 32, 41, 42, 23 and the severely eroded 21, 22 were extracted.
2. Full-mouth crowns and bridges: Full-coverage dental crowns post root canal treatment were provided in 16, 15, 14, 26, 27, 35, 36, 37, and 44. The crowns were custom made to recreate the natural shape, size, and color of the original teeth. Fixed partial dentures were also utilized to replace missing teeth and providing functional and esthetic benefits. Long span fixed partial dentures were given in both upper and lower jaws restoring her smile as seen in Figures 3, 4.
3. Occlusal correction: The occlusion was carefully adjusted to ensure proper balance and stability until she was satisfied. This process involved selectively reshaping and fabricating the restorations to achieve a harmonious and functional bite.

FIGURE 3 | Extraoral (frontal).

FIGURE 4 | Extraoral (right).

Step 5: Follow-up and maintenance

Following the completion of full mouth rehabilitation, the patient was instructed about post-treatment care instructions and scheduled for regular follow-up visits. These visits involved routine check-ups, scaling, and periodic evaluations of the restorations and overall oral health. The patient was advised to maintain good oral hygiene.

Conclusion

Full mouth rehabilitation is a complex and multidisciplinary treatment approach aimed at restoring oral health, function, and esthetics in patients with extensive dental problems (2, 3). Full mouth rehabilitation is usually indicated in cases of worn-down teeth, temporomandibular joint disorders, and dental trauma (4). A thorough and comprehensive diagnosis coupled with meticulous treatment planning will always ensure better outcomes. The whole process of full mouth rehabilitation must be centered around the patient's need and requirements (5, 6). Moreover, full mouth rehabilitation should always involve a multidisciplinary approach to make sure that the patient receives only the best of treatments as multidisciplinary approach involves a collaborative effort from all the specialists.

The patient's full mouth rehabilitation journey involved a comprehensive approach to address her multiple missing teeth, excessive wear, severe abrasion, erosion, and reduced vertical dimension of occlusion. Through a combination of surgical, restorative treatments, bite rehabilitation, and esthetic enhancements, her oral health and smile were successfully restored. Regular follow-up care and maintenance visits are essential to ensure the long-term success and durability of her full mouth rehabilitation.

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