

## Esthetic and Functional Rehabilitation of a Severely Mutilated Dentition in an Intellectually Challenged Patient- A Case Report

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### Abstract

Planning and executing the restorative rehabilitation of a severely mutilated dentition in intellectually challenged patient is one of the most challenging task for a dentist. Motivating such patients for maintenance of oral hygiene, after the rehabilitation again has to play a major role in a treatment, to attain a fair prognosis. Severely mutilated dentition usually presents with loss of anterior guidance necessary for the protection of posterior teeth against wear during excursive movements. This leads to alteration in occlusal plane and loss of vertical dimension. This case reports presents a rehabilitation of 35 year old male patient who is mentally challenged having severely mutilated, badly carious, broken down teeth with poor oral hygiene.

**Keywords:** Rehabilitation, Mutilated teeth, Intellectually challenged.

### Introduction

Intellectual disability (formerly mental retardation) refers to a group of disorders characterized by significant limitations both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behavior, which covers a range of everyday social and practical skills such as managing money, schedules, and routines, or social interactions. Intellectual disability (ID) may originate before the age of 18 and may result from physical causes such as Autism or Cerebral Palsy, or from non-physical causes such as lack of stimulation and adult responsiveness. ID can be caused by injury (Traumatic Brain Injury), disease (Alzheimer's), genetics, or a brain abnormality.<sup>1</sup> Providing oral care to patient with intellectual disability requires adaptation of the skills you use every day. In fact, most people with mild or moderate intellectual disability can be treated successfully in the general practice. Intellectual disability is a disorder of mental and adaptive functioning, meaning that people who are affected are challenged by the skills they use in everyday life. Intellectual disability is not a disease or a mental illness; it is a developmental disability that varies in severity and is usually associated with physical problems.<sup>2</sup> Before the appointment, obtain and review the patient's medical history. Consultation with physicians and family is essential to assembling an accurate medical history. Medications, malocclusion, multiple disabilities, and poor oral hygiene combine to increase the risk of periodontal disease in people with intellectual disability.

The management of a complete oral rehabilitation in such patients with severely mutilated dentition is often challenging due to loss of vertical dimension, loss of tooth structure, uneven wear of teeth creating an uneven plane of occlusion, poor oral hygiene and para-functional habits. Excessive wear results in unacceptable damage to the occluding surfaces, TMJ

and masticatory muscles.<sup>3</sup> It is known that loss of the vertical dimension of occlusion (VDO) may pose significant clinical difficulties in prosthodontic treatment.<sup>4</sup>

### Case Report

A 35 year old male patient, who was intellectually challenged, reported with multiple carious, severely mutilated broken down teeth with a very poor oral hygiene (Fig. 1 and Fig. 2). There was obvious loss of vertical dimension and severely altered occlusal plane. There was generalized gingival inflammation, loosely attached gingiva and deep pockets. Though the patient was intellectually challenged, he was cooperative and was responding to my instructions. The complete treatment plan, number of visits and expenses was explained to the relatives before starting the treatment. The full mouth OPG was taken to assess the present preoperative condition (Fig. 3).



**Fig. 1: Extraoral photograph**



**Fig. 2: Intraoral photograph**



**Fig. 4 b**  
**Final PFM Restorations (a and b)**



**Fig. 3: Preoperative OPG**



**Fig. 5: Postoperative OPG**



**Fig. 4 a**

#### Treatment Sequence

1. The patients diagnostic impressions were taken and casts were mounted according to the centric bite record. The approximate loss in vertical was determined and wax up was done at a raised vertical bite in centric relation.
2. The extractions of hopeless teeth i.e. 16, 17, 26, 27, 36, 37 and 47, 48 were planned and root canal treatment was done of the remaining teeth except 18 and 28.
3. After all the satisfactory healing, Root Canal Treatment and oral hygiene instructions the tooth preparations were done and Provisionalisation was done according to the diagnostic wax up.
4. The mandibular midline of patient was shifted to left side which was seen in provisionalisation.
5. The provisionalisation was evaluated for 1 month in a patient mouth. The esthetics, phonetics, occlusion and oral hygiene was examined throughout one month.
6. After one month final adjustment in tooth preparations were done and definitive impressions were made of one arch keeping other arch occlusal plane fixed. The occlusal wax bite records were taken according to the predetermined vertical dimensions.

7. The final PFM restorations of each arch were cemented one by one.(Fig. 4a and 4b)
8. The final prosthesis was evaluated for further 6 months and postoperative OPG was taken.(Fig. 5)
9. The Vacuum formed soft acrylic splint (Night guard) was fabricated and delivered to protect the restorations.
10. After 6 months there was noticeable improvement in health of periodontium and overall general oral hygiene and health of patient.

### Discussion

The clinical management of a mentally challenged patient in complex functional prosthodontic rehabilitation is a challenging task. Apart from the accurate diagnosis, proper treatment planning and treatment execution, the patient's cooperation and oral hygiene maintenance in such patients is essential for a successful treatment outcome over a long period. Reorganized approach in full mouth rehabilitations should restore both the structural and functional integrity of the dental arches. It should be more intellectually and technically planned and executed to optimize oral function, occlusal stability and esthetics.<sup>5,6</sup>

Multiple cast post and crown lengthening were planned in this patient to increase the crown height as it was severely broken down. Impression making was a difficult task every time as the patient was little apprehensive about it. Accurate recording of wax bite took a handful of time. The mandibular midline was shifted to left side in the final restorations as it was beyond corrections. A canine guided (mutually protected occlusion) was given in this patient to protect remaining dentition from adverse occlusal torsional forces to and from centric relation and centric occlusion.<sup>7</sup> The Night guard was fabricated and delivered to protect the restoration and supporting structures occurs during parafunction, not during normal function.<sup>8</sup> Many follow ups were done to ensure the status of the prostheses and oral hygiene.

### Summary

The full mouth rehabilitation of intellectually impaired patient was not only a difficult task but was very challenging. The patient cooperation was utmost important during the course of treatment. The number of visits and steps in procedure during treatment was significantly reduced to regain patient's confidence and motivation towards treatment. After the several follow ups the overall oral hygiene of the patient was found to be improved.

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