RESTORING SMILE THE CONVENTIONAL WAY WITH CAD-CAM DESIGNING - A CASE REPORT ON CAST PARTIAL DENTURE

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INTRODUCTION

A cast partial denture is a removable plate or frame used to fill in the spaces left by lost teeth in the mouth. It supports one or more artificial teeth. It has prosthetic teeth manufactured of acrylic resin affixed to a cast metal framework. When the remaining teeth are still present, these dentures are typically utilized.

They improve dental health, appearance, and performance. By supporting and stabilizing the remaining teeth, cast partial dentures restore proper speech and chewing while preventing neighbouring teeth from slipping.

As an alternative to fixed bridges or dental implants, they offer a comfortable and secure fit tailored to the unique oral structure of each patient.

Patients with partial tooth loss can improve their general dental health and self-confidence with cast partial dentures, which are affordable and dependable.

Key words: Cast partial denture (CPD), Partially edentulous patients, Removable partial denture

CASE REPORT-

A 52 year old female patient reported to the department with the chief complaint of missing teeth in the upper back and lower

front region of the jaw since 2 years. On examination, missing teeth with 16,17,25,26,27 of upper arch and 31,32,33,36,41,42,43,44,45,46 with respect to lower arch respectively. Fixed metal ceramic prosthesis with respect to 11,12,21,22 and 23 were present (FIGURE-1A,1B) .

Various treatment plan was discussed with the patient but as per the financial constraints of the patient cast partial denture replacing 16,17,25,26,27,31,32,33,36,41,42,43,44,45 ,46 was planned. Diagnostic impression and diagnostic mounting was done. Surveying was done (FIGURE-2) and cast partial denture was designed using CAD-CAM (FIGURE-3A,3B). Occlusal rest seat preparation with 15,24,34,35,37,47 and cingulum rest preparation with 13 and 23 and guiding plane with 15,24,35,37 and 47

were planned and the necessary mouth preparations were done in the patient's mouth followed by impression with elastomeric impression material (FIGURE-4). Wax up was done and casted. The metal framework for cast partial denture was then checked in the patient's mouth for stability and fit (FIGURE-5A,5B,5C). The jaw relations were done and try in was checked. The trial denture was then sent for acrylisation and finished denture was then delivered to the patient (FIGURE-6A,6B,6C,6D).

FIGURE-1A

FIGURE-1B

FIGURE-2

FIGURE-3A

FIGURE-3B

FIGURE-4

FIGURE-5A

FIGURE-5B

FIGURE-5C

FIGURE-6A

FIGURE-6B

FIGURE-6C

FIGURE-6D

DISCUSSION-

Patients who are partially edentulous might receive a variety of treatments. The optimum course of treatment is designed for the patients based on their circumstances and a number of diagnostic parameters.

Nowadays, because of the introduction of various techniques like CAD-CAM,

precision milled and semi-precision attachments, improved impression materials, improved techniques and designs, the best treatment can be given to the patients [1]. In removable partial denture, primary retention is mainly accomplished mechanically by placing retaining element on the abutment teeth whereas Secondary retention is provided by the intimate relationship of the denture bases and major connector with the underlying tissue [2]. Lack of stability is a major problem faced by most of the patients leading to poor chewing ability [3]. CPD are strong, rigid have good stability and hence it is preferred.

CONCLUSION-

Based on this case study, it was determined that if proper oral and denture care is maintained on a regular basis, a cast partial denture can function as a better prosthesis in terms of retention, stability, masticatory efficiency, comfort, and periodontal health of the abutment.

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