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Overdenture Applications: Two Cases Reports

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Abstract: Treatment with overdentures is widely used for prosthetic rehabilitation of elderly patients. Overdenture prosthesis are natural teeth or implant supported prosthesis for mandibular and maxilla. When there is difficulty in using complete dentures, poor prognosis of supporting teeth of removable partial denture, the presence of severe attrition, congenital or acquired defects and class III malocclusion, overdenture prosthesis can be used. This cases reports of the treatment of patients having partial edentulism with coping and removable partial denture treatments.

Key words: Elderly patients, partial removable dentures, prosthetic treatment, coping, overdenture

INTRODUCTION

Overdenture restorations provide esthetic, function and phonation well. Since natural teeth and teeth roots are preserved in these prosthesis proprioceptive mechanism increases the chewing efficiency. The patients adaptation period is also decreases (Eser *et al.*, 1991; Toolson and Taylor, 1989). In the partially edentulous patient, overdentures are sometimes particularly indicated. When there are few remaining teeth, severe loss of periodontal attachment and either unfavorable teeth distribution in the arch or a heterogeneous prognosis, overdentures might be the choice (Scotti *et al.*, 2002). In comparison with complete dentures, overdentures may provide better function, such as improved chewing efficiency and occlusal force and increased speed of controlled mandibular movement (Hong *et al.*, 2003; Fenton, 1998).

Adjustment and repairs are readily made and oral hygiene is facilitated with removable prostheses (Scotti *et al.*, 2002). The main documented advantages of overdentures are decreased resorption of the residual ridges, psychologic benefits for the patient and maintenance of an acceptable degree of mastication efficiency. A significant problem has been the increased susceptibility of overdenture abutments to dental caries (Hong *et al.*, 2003; Roumanas *et al.*, 2003). However, some researchers report an incidence of up to 35% of decayed tooth abutments, even with high standards of oral hygiene (Akgök and Kedici, 1991). The wearing of overdentures may be associated with caries and progression of periodontal disease of abutment teeth, even if preventive measures are introduced. In well-controlled patients, using cast copings the caries rate was reduced to 6% (Scotti *et al.*, 2002; Dalkız *et al.*, 1992).

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CLINICAL CASES

In this study overdenture applications were planned. In case one, a 55 years old, diabetic woman was attended to which was having loss of vertical dimension caused by diabetic denture wearer and extracted molar teeth (Fig. 1, 2). A detailed medical, dental and social history was obtained. Photographs and dental radiographs was obtained. The patient didn't use any prosthesis. Diagnostic casts were made, as were face-bow and protrusive records. Casts were mounted in centric relation in a semi-adjustable articulator.

A treatment plan was developed with the following aims: to reduce the loss of the teeth and function, to improve the esthetics and to restore masticatory function.

Endodontic treatment were carried out to all abraded teeth at upper jaw (Fig. 3). Copings were prepared and maxillary overdenture was done (Fig. 4-7).

In case two; an 32 year old woman was referred for treatment of loss of function and esthetics of her teeth.

A detailed medical, dental and social history was obtained. Photographs and dental radiographs was obtained (Fig. 8, 9).

The patient's maxillary right and left second molar, maxillary right first molar and first premolar, maxillary right and left central, maxillary left first and second premolar, mandibular left second premolar and first molar teeth had been extracted due to caries (Fig. 10).



Fig. 1: Pretreatment view



Fig. 2: Teeth abrasions



Fig. 3: Endodontic treatment of abraded teeth



Fig. 4: Copings and metal frame work



Fig. 5: Upper overdenture prosthesis



Fig. 6: Post treatment view

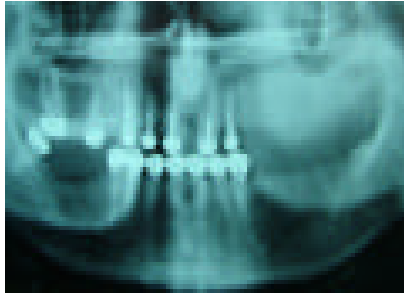


Fig. 7: Final graphy



Fig. 8: Patient's intraoral vie before treatment



Fig. 9: First graphy



Fig. 10: Before treatment

Treatment

Diagnostic casts were made, as were face-bow and protrusive records. Casts were mounted in centric relation in a semi-adjustable articulator.

A treatment plan was developed with the following aims: to reduce the loss of the teeth and function, to improve the esthetics and to restore masticatory function.

Fabrication of full metal crown for mandibular right third molar teeth and fabrication of metal-ceramic FPDs for mandibular left posterior teeth were planned. Fabrication of metal copings for maxillary teeth were planned. Precious attachments were planned for maxillary teeth.

The maxillary teeth were prepared for metal copings (Fig. 11). Diamond burs (DIA-TESSIN, Swiss) were used to refine the preparations. Impression for prepared teeth were made with vinyl silicone material (Speedex; Coltene/Whaledent In.) in stock trays. Maxillary and mandibular casts were mounted in centric relation in a semi-adjustable articulator. Precious attachments were applied and attempted. Impression were made with the attachments. Copings and frameworks were applied. Restorations were fabricated with dropout materials (Dropout-Kulzer, Liechtenstein) according to the manufacturer's directions. The copings were then cemented with zinc-polycarboxylate cement (Poly F Plus; Dentsply De Trey GmbH, Konstanz, Germany) according to manufacturer's power/liquid ratio. The mandibular metal-ceramic FPDs were fabricated with porcelain material (Matchmaker) according to the manufacturer's directions (Fig. 12, 13).



Fig. 11: Metal copings



Fig. 12: Appearance of the patient after treatment

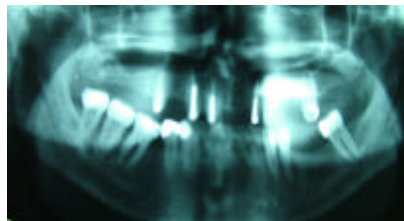


Fig. 13: Final graphy

CONCLUSION

This clinical report describes the use of copings, metal-ceramic FPDs, full metal crown and precious attachments for restoration of loss of teeth. Metal-ceramic FPDs and full metal crown restoration were placed on the mandibular posterior teeth and copings and precious attachments were placed on the maxillary teeth to improve the occlusion and esthetics.

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