CASE REPORT

Overlay Denture- A Case Report

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Abstract

In present times dentists have to treat patients with high levels of tooth wear. Pathological tooth wear, caused by parafunction and caries, seems to be a growing problem that affects a large number of adult patients. The clinical report presents a case of a partially edentulous patient with an elevated degree of tooth loss in the upper jaw caused by caries, rehabilitated with a maxillary overlay removable partial denture (ORPD) consisting of a metal copings, acrylic overlay denture and a cast partial prosthesis for the mandible. Removable partial prosthesis is a treatment alternative when teeth are found to be severely worn or when the patient needs a simple and economical option.


Key words: Pyogenic granuloma

Introduction

Failure to replace a missing posterior tooth is assumed to disrupt the balance of the stomatognathic system with a consequent alteration in the vertical dimension of occlusion (VDO). Loss of VDO may be caused by physiological tooth wear which is usually compensated for by continuous tooth eruption and alveolar bone growth as well as in situations where tooth wear exceeds compensatory mechanisms. A treatment option may be the overlay removable partial denture (ORPD), which is a prosthesis that covers and rests on one or more natural teeth or the roots of the natural teeth. This paper reports a clinical situation in which an ORPD was used to treat teeth with severe wear and with absence of posterior occlusal support.

Case Report

A 40-year-old female patient came to the Department of Prosthodontics, Chandra Dental College, complaining of several missing posterior teeth both in the maxillary and mandibular arch and also of the worn appearance of her teeth. She was informed about the procedure and her consent was obtained.

Clinical examination revealed several missing posterior teeth along with grossly decayed maxillary lateral incisors. Prior to denture fabrication, all maxillary were endodontically treated and restored. The patient was given proper
oral hygiene instructions and was able to
demonstrate acquisition of oral hygiene skills.

After cementation of the copings custom acrylic
trays were made and border molded similarly to a
denture. A final rubber base impression is taken
and a cast made of stone. The meatal framework
for the mandibular ridge is tried in the patients
mouth and necessary adjustments made.

Alginate impressions were taken and study
models were made of stone. The models were
surveyed to locate any tooth undercuts that may
prevent the denture from seating into its proper
position. The endodontically treated maxillary
teeth were then prepared to receive metal copings.
Rest seats were prepared on the mandibular teeth.

Preoperative

Prepared Maxillary Arch

Cemented Copings

Overlay Maxillary Denture

Post-operative
Acrylic base plates with occlusal rims aremade and the vertical dimension of occlusion is established. Due to tooth loss, lack of posterior tooth support, and severe tooth wear, the patient’s vertical dimension was considerably diminished. This condition necessitated steps designed to increase the vertical dimension of occlusion. A facebow transfer and jaw relation records are taken to relate the casts which are mounted on a suitable articulator. The selected denture teeth are arranged in wax and tried in the patient’s mouth for evaluation of function and esthetics. After a satisfactory try-in, the denture is processed, remounted to adjust the occlusion, and then delivered to the patient. During the final try-in, the denture is seated and the occlusal and flange portions of the denture are adjusted. Home care instructions are given which include removal of the dentures at night and brushing both the dentures and natural teeth after every meal.

The follow-up for clinical evaluations occurred weekly during 6 months. Necessary adjustments were made on the centric and the eccentric mandibular positions. The treatment promoted the re-establishment of vertical dimension of occlusion, the occlusal contacts that were distributed in a simultaneous and homogeneous way, better clinical conditions of masticatory muscles and consequently, coordinated mandibular movements.

The complete overlay denture has numerous advantages for the patient. Enhanced mastication and esthetics are the more obvious benefits and speech also may be improved. The alveolar bone is maintained by the retention of teeth compared to its loss when teeth are extracted. With the retained teeth and their periodontalligament, there is increased proprioception compared to a complete denture that is fabricated over an edentulous ridge (Loiselle et al. 1972). When fabricated properly, an overlay denture has excellent retention and stability.

Possibly, the most important advantage of an overlay denture is the positive psychological support for the patient.

**Summary**

Complete overlay dentures are relatively easy to fabricate and render satisfactory results for the patient. Certain considerations should be addressed while designing these protheses, including vertical dimension, overbite and overjet relationships.

**References**