

Case Report

Telescopic Crown Retained Over Denture with Salivary Reservoir – A Case Report

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Abstract: Neoplastic lesions of the mandible require mandibular resection and may or may not require radiation therapy. These patients are particularly challenging for a prosthodontist to rehabilitate due to their reduced salivation, compromised mouth opening and surgical defect. This case report attempts to describe the rehabilitation of such a patient using telescopic crown retained over denture with salivary reservoir.

Keywords: Neoplastic lesions, mandibular resection, rehabilitation

INTRODUCTION

Surgical treatment for neoplastic lesions of the oral cavity often requires resection involving the mandible, floor of the mouth, tongue, and also palate [1]. Segmental resection of the mandible results in special physiological and esthetic problems [2]. A hemimandibulectomy can have many debilitating consequences, such as an eccentric occlusion, a disoriented masticatory cycle, facial disfigurement, distorted speech, and salivation problems [3]. The benefits of primary surgical reconstruction have been well documented [4, 5, 6]. And immediate reconstruction of the mandible is generally preferred to optimize treatment outcome [7]. While considering patients who have undergone radiation therapy the problem of reduced salivation is also encountered.

CASE REPORT

- A 55 year old patient registered to the Department Of Prosthodontics, A.B. Shetty Memorial Institute of Dental Sciences with chief complaint of missing teeth and reduced salivation. The patient gave history of ameloblastoma 4 yrs back for which he was operated and mandibulectomy performed after which he also received radiotherapy for the same. The mandible had subsequently been reconstructed 2 yrs back with bone graft.(Fig 1,2&3)
- On examination it was found that the patient had a reduced mouth opening (Fig 4). The

following teeth were missing 43, 42, 41, 31, 32, 33, 34, and 35. There was a root stump present with 44. The tongue blade test to assess the salivary secretion was positive. The patient had a fixed prosthesis with 44 and 36 as retainers that had been dislodged. The patient used the prosthesis only for aesthetics and had to remove the same while taking food and liquids due to his reduced mouth opening.

- Considering the patients reduced mouth opening and reduced salivary secretion it was placed to give the patient a telescopic crown retained over denture with a salivary reservoir.
- The first step was to extract 44.
- After sufficient healing, tooth preparation was done with 45 and 36; impressions of the upper and lower arches were made. No impression tray was used as the reduced mouth opening did not allow the insertion of even a sectional tray. A putty impression was made that was subsequently relined with light body (fig 5).
- Primary copings were fabricated and cemented to the teeth (Fig 6&7). The wax pattern for the cast partial denture was fabricated, cast and tried in the patient's mouth. The neutral zone of the patient was recorded on this framework and subsequently a putty index was made (Fig 8&9).
- The teeth arrangement was done according to this index.

- Try in was done and the assembly flaked. (Fig 10)
- To create the salivary reservoir 2 lower flasks were taken.
- The assembly was flaked and dewaxed. Subsequently a single sheet of base plate wax was adapted to both the upper and lower compartments where resin flow is required. The assembly was again flaked, dewaxed and cured.
- After divesting the 2 parts of the partial denture were rejoined using cold cure resin
- One hole was created on the upper part of the partial denture to allow injecting the artificial saliva while 5 hole were drilled in the inferior surface on the lingual aspect the allow the flow of artificial saline.
- The prosthesis was subsequently inserted into the patient's mouth occlusion and esthetical verified. (Fig 11.)



Fig 1: Maxillary arch of patient.



Fig 2: Mandibular arch of patient.



Fig 3: OPG of patient.



Fig 4: Patient had a reduced mouth opening(2 finger without the prosthesis in place).



Fig 5: Mandibular impression of patient.



Fig 6: Cementation of primary coping with 45.

Fig 7: Cementation of primary coping with 36.



Fig 8: Neutral zone recorded in the patients mouth.

Fig 9: Teeth arrangement done according to index.



Fig 10: Try in of the patient.



Fig 11: Final prosthesis of the patient.



Fig12: Final prosthesis given to the patient.



Fig 13: Patient without the prosthesis .



Fig 14: Patient with the prosthesis

CONCLUSION:

The use of a removable prosthesis with a salivary reservoir was a good option for the patient. The reduced mouth opening eliminated the options using a fixed prosthesis. The removable prosthesis that took the

support of the remaining natural teeth ensured a retentive and stable prosthesis. The salivary reservoir added to the comfort of the patient by reducing the dry mouth sensation.

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