Rehabilitation of Acquired Maxillary Defect

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Abstract

Prosthetic rehabilitation of acquired maxillary defects can be achieved satisfactorily if all facets of treatment planning and design considerations are taken well into account prior to the rehabilitation process. In many cases effective obturation is achieved but in the relative majority the prosthesis is usually rejected by the patient and the outcome is a failure. Complications associated with maxillary defects limit the treatment protocols to a great extent. The prosthodontist has to identify these problem areas and suitably device feasible options and incorporate them in the design

Key words: acquired maxillary defect, hollow bulb, obturator.

Introduction

The hemi-maxillectomy patient is usually physically and psychologically debilitated after surgical treatment. Rehabilitation of such defects is done with the aim of restoring mastication, speech, esthetics, and to prevent nasal regurgitation of food.

Such cases are usually compromised of supporting areas for the prosthesis. A prosthesis fabricated for the case relies on the bulb, which fits in and restores the surgical defect, for support, retention and stability to some extent. The bulb, and often the entire prosthesis, is fabricated of acrylic resin to limit costs to the patient. Making the bulb hollow keeps the prosthesis weight under check.

Ultimate success of the prosthesis depends upon the patient's attitude and his ability to adapt to the prosthesis. Patient education and motivation regarding the compromises that may have to be made with such prostheses is most important.

rehabilitation of such a patient using a single piece hollow bulb obturator.

Case Report

A 50 year old man had undergone maxillectomy of the left side after prolonged treatment for squamous cell carcinoma. The defect was moderate in size. Fortunately, most of the contralateral hard palate was present, and would lend itself as a main supporting area (Fig. 2). Adequate mouth opening was available and the other teeth were healthy (Fig. 1). A one piece hollow bulb obturator was planned for the patient [2].

Procedure

- Primary impression was made with alginate. Lubricated gauze pieces were used to block deep undercuts [4].
- A special tray was fabricated and final impression made using addition silicone [5].
- The master casts were obtained and record bases of self curing acrylic fabricated. The bulb was fabricated to be part of this record base to help stabilize it in the mouth. Bite registration records were taken on wax with soft bite registration paste.
- Try-in was done and the denture was waxed up. Wax-up of the bulb portion was done by lining the cast with a 2 mm layer of wax. After flasking and boil-out the mould was packed with heat curing acrylic and cured. The final prosthesis (Fig3) had denture base with teeth along with bulb, which was hollow and palatally open at this time. A palate was made with self curing resin (Fig.4) and attached to restore the palatal contours (Fig. 5).
- The finished prosthesis was inserted (Fig. 4 & 5) and the patient was followed up at regular intervals.

Discussion

prosthesis- the edentulous ridge, healthy teeth and hard palate, are generally missing in maxillectomy cases, which make the fabrication of a prosthesis challenging.

In this case, the contralateral palate was used as the primary area for support of the obturator. The bulb engaged the defect in a manner as to provide retention and stability. Fortunately, adequate mouth-opening was present. Weight issue of the bulb was solved by making the bulb hollow.

Improvements in patient's speech, mastication and psychological improvement are an outcome of these prostheses. If the patient has been motivated and has reasonable expectations, positive outcomes can be expected.

Conclusion

The prosthodontist has an important role to play in rehabilitating maxillectomy patients. A simple design of the prosthesis and patient counseling can help to overcome the patient's deficiencies.

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Fig. 1


Fig.23


Fig. 3


Fig. 4


Fig. 5


Fig. 5