

Rehabilitation Of A Patient With An Interim Pharyngeal Obturator : A Case Report

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ABSTRACT:

An interim prosthesis is used to rehabilitate a patient with partial or total soft palate defect generally as soon as possible after surgery. This article describes a stage by stage technique of fabrication an interim pharyngeal obturator with a speech bulb for a patient with a partial soft palate defect.

INTRODUCTION:

Cancers of the mouth, tongue, oropharynx, nasopharynx and larynx comprise approximately 5% of all cancers.¹⁻³ Most treatment methods to eliminate the cancers would involve surgical resection and concomitant radiation resulting in incapacitating defects compromising the integrity and function of the oral cavity requiring immediate short or long term management and rehabilitation procedures. While restoration of the defect is fairly straightforward in case of the hard palate, it becomes more complicated and challenging when involving the soft palate. Among soft palate defects the complete soft palate defect is easier to trace and obturate than compared with a soft palate that has been partially resected and is dysfunctional.⁴ A partial soft palate defect may result from the surgical resection of the posterior border from the medial or lateral posterior portion of the soft palate.⁵ Median posterior border defects occur after the resection from the uvula and posterior soft palate. In contrast, lateral defects occur when the anterior tonsillar pillar and retromolar trigone are resected.

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Rehabilitation of such patients may be accomplished surgically or prosthetically. Surgical reconstruction includes microvascular flap techniques using vascularized or nonvascularized soft tissue flaps.⁴ However in many instances, these flaps may unsuccessfully obturate the nasopharyngeal port, and patients may then be referred to the maxillofacial prosthodontist for evaluation and treatment. The presence of the flap may complicate the successful prosthetic obturation of these surgically reconstructed defects.

This article describes a stage by stage rehabilitation of an acquired lateral soft palate defect with an interim pharyngeal obturator and a speech bulb. This prosthesis made the rehabilitation comfortable and served as a transitional and training denture prior to insertion of the more definitive prosthesis. The prosthesis helped to alleviate speech problems, and assisted in the masticatory function. The speech bulb was easy to insert and remove for the patient. It was also easy to fabricate and adjust to the denture base.

.CLINICAL REPORT:

A 29-year-old man diagnosed with adenoid cystic carcinoma of the minor palatal salivary glands had undergone a partial maxillectomy and excision of the soft palate (Fig.1) and was referred to the Department of Prosthodontics, Manipal College of Dental Sciences, Mangalore, India. Immediate surgical reconstruction was not recommended due to the need for further treatment with radiation therapy. The patient received postoperative external beam radiation therapy by anterior direct beam on a telecobalt machine with a total dose of 60 Gy in 30 fractions over a period of 6 weeks. The patient tolerated the radiation well and was subsequently referred for possible prosthetic restoration of the oral defect after radiation therapy. On examination of the defect, laterally resected and dysfunctional soft palate along with partial maxillectomy on the right side was noted. Various modalities of prosthetic reconstruction were discussed with the patient and the patient indicated a

desire for an economical solution. Hence, heat-polymerizing interim acrylic resin prosthesis was planned, and the expectations of this prosthesis were explained to the patient.

To improve patient adaptation, the speech-aid device was constructed stage by stage. In the first stage, the impression of the defect was obtained with irreversible hydrocolloid (Imprint; Dental Products of India Ltd). The impression was removed and poured in Type III dental stone (Dentstone; Pankaj Industries, Mumbai Maharashtra, India). Undercuts were blocked in Type II dental stone (Fig. 2). Maxillomandibular jaw relations were obtained and prosthesis was waxed to form. A heat polymerized clasp retained acrylic-resin maxillary prosthesis was delivered to the patient (Fig. 3). After 3 weeks an acrylic-resin extension was added to the posterior border of this prosthesis. This was extended posteriorly to the intact residual soft palate and parallel to the soft tissue in the nasopharynx, approximately 3 to 4 mm short of the adjacent tissues at the maximum level of contraction. Some pressure was exerted to slightly elevate the remaining soft palate to compensate for the thickness of the material and not to encroach on the tongue space. The contours of the defect and velopharyngeal musculature were functionally recorded with modeling compound to form the speech bulb. The bulb was placed within the nasopharynx at the plane of velopharyngeal (VP) closure. The patient was instructed in repeated swallowing so that the bulb was grossly molded but still underextended. The bulb was designed to be slightly superior to the level of the VP closure and to approximate the pharyngeal walls, so as to allow competent VP valving during speech but leave free nasal breathing and production of nasalized speech sounds. The denture base with the extension was chilled in cold water and preparations were made for conversion of the bulb into acrylic resin. Type II stone was placed around the obturator impression to include the intaglio side of the denture base (Fig 4). The impression material was replaced with heat-polymerizing acrylic resin (Fig 5). The patient was instructed to wear the prosthesis at all times during the day, including at meals, and to remove it at night. The adaptation of the patient to the prosthesis was prompt and good, although he reported impeded breathing during strenuous activities.

The patient was scheduled for the first post-insertion adjustment 3 days after the insertion. At the first post-insertion appointment the surgical wound was observed to ensure health of the tissues, to relieve the prosthesis for pressure areas on the tissues, to compensate for processing changes, and to emphasize hygiene and home care. The patient was placed on a 3-month recall for evaluation and observation of any recurrence.

SUMMARY

This clinical report describes a multistep procedure for prosthetic rehabilitation of a soft palate defect with an interim pharyngeal obturator and speech bulb. The advantages of this prosthesis are that the technique is noninvasive, cost-effective, tissue tolerant, comfortable to use, and easy to fabricate and clean. The prosthesis coupled with the patient's compensatory phenomenon improved the quality of life and provided appropriate and effective nasopharyngeal obturation

FIGURES:



Fig 1: Preoperative view of the defect



Fig 2: Blocked out cast



Fig 3 : Clasp retained acrylic removable



Fig 4: Cast with stone placed around the obturator impression



Fig 5: Prosthesis in situ



Fig 6: Postoperative view in occlusion

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