

Case Report:

Prosthetic rehabilitation of an edentulous Veau's class II -A Case report.

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Abstract:

Patients with acquired defects or congenital malformations of the palate exhibit disturbances in speech including hypernasality, nasal emission and decreased intelligibility of speech. Maxillofacial prosthesis is an art and science which not only replaces the lost structure but also sometimes restores the function. obturator is a prosthesis which closes the palate and pharyngeal defects and improving the speech and other function. This article presents a case report of a completely edentulous patient with palatal insufficiency rehabilitated prosthodontically with a hollow bulb obturator and a procedure for fabrication of closed hollow bulb obturator prosthesis.

Keywords: Hollow Obturator, Palatal Insufficiency, Prosthetic Rehabilitation

Introduction:

Palatal defects that are treated prosthodontically need to seal congenital or acquired tissue openings of the palate and contiguous structures. A prosthesis used to close a palatal defect in a dentate or edentulous mouth is referred to as an obturator. The obturator prosthesis is used to restore masticatory function and improve speech, deglutition and cosmetics for maxillary defect patients.

This prosthesis vary in size and shape depending on the extent of the defect and should be easily fabricated, lightweight, provide retention, stability and the size and location of the defects influence the degree of impairment and difficulty in prosthetic rehabilitation.¹

Velopharyngeal deficits may result from congenital malformations. One such deficit is palatal insufficiency i.e. inadequate length of the hard and/or soft palate to affect velopharyngeal closure, but with movement of the remaining tissues within normal physiological limits that may result in hypernasality

and decreased intelligibility of speech.²

Common problems among them are nasal regurgitation, speech defect palate patient presents with a series, poor cosmetic appearance.

Clefts can be classified according to various systems of classification. veau's classification gives a general idea about the location of the defect.³ Rehabilitation of a cleft involves an interdisciplinary approach, which avail the services of a maxillofacial prosthodontist, plastic surgeon, speech therapist etc. A prosthodontist plays a major role in palatal defects that are treated.⁴

A prosthetic rehabilitation of an unoperated Veau's II cleft palate in an edentulous patient is presented here.

Case report:

A 52-year-old female patient reported with the chief complaint of inability to masticate, swallow and slurred speech with nasal regurgitation.

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History revealed that the patient had an oro-nasal communication since birth. The patient was wearing a plate that acted as an obturator when her teeth were present since last 25 years, but with the loss of teeth due to poor oral hygiene and tooth decay the plate could not be retained and patient faced problems of inability to masticate and swallow.

History revealed that the oronasal communication was present since birth and the defect was

not treated surgically. General examination did not reveal any abnormalities except for nasal twang in her speech. Intraoral examination revealed the patient was edentulous and had a Veau's class II defect i.e. the defect of soft and hard palate up to the alveolus. (Fig.1)

Tissue undercuts were present in the palatal region at the site of defect. The oral mucosa did not show any abnormality. Considering her socio-economic condition and her functional and esthetic requirements, a hollow bulb obturator was planned for the patient.

Procedure:

A gauze piece lubricated with petroleum jelly was packed into the alveolar cleft prior to impression making to avoid any impression material from being forced into nasal cavity.⁵ Preliminary impressions were made in irreversible hydrocolloid impression material with stock tray and lower edentulous ridge was recorded with impression compound. Study casts were obtained. All undercuts were blocked with wax. The tray of uniform thickness was fabricated with self-cure acrylic resin material with 2mm spacer given in it. The tray was extended up to passavants ridge. The tray was adjusted in patients mouth and borders were molded with low fusing compound and special care was taken at defect area for better adaptation and retention. Final impressions were made with low viscosity poly-vinyl siloxane (Reprosil, Type 1, Dentsply, Germany) rubber base impression material and were poured in type III dental stone (Goldstone, Asian chemicals, Gujrat, India) The defect was covered with modeling wax to block the undercut areas. An autopolymerised acrylic resin record bases and wax occlusal rims were made.⁶

The maxillomandibular relations were recorded and mounted on the articulator; teeth were arranged in wax and verified clinically. Arrangement of teeth was done using nonanatomic teeth in monoplane occlusal scheme.

Waxed and finished trial denture was sealed to the cast. The wax lid was made that would cover the defect area leaving a hollow bulb. Beveling was done on lid wax (defect side) to facilitate seating the assembly. These were invested and processed with heat cured acrylic resin separately, that covers the maxilla with defect and lid would cover the hollow part of the obturator. The denture was then polymerized in the conventional manner and the lid was polymerized separately^{1, 3, 5}

The lid was joined with autopolymerising resin to the main prosthesis (fig.2). The finished obturator was inserted to an accurate fit into the patient's mouth and necessary adjustment was carried out (fig.3). Phonetics of the patient was evaluated, the speech showed definite improvement. The patient was given training for placement of the prosthesis and post insertion instructions for maintenance (fig.4). The patient was recalled for periodic follow up visits.



Figure 1: Intraoral photograph showing the defect before obturator construction.



Fig 2: Processed obturator [with lid and maxillary denture]



Fig 3: Photograph of obturator inserted.



Fig 4: Extraoral view of the patient with prosthesis

Discussion:

Cleft palate rehabilitation involves essentially a multidisciplinary approach. These cases should ideally have been treated surgically followed by orthodontic treatment and speech therapy. This would have led to a considerable decrease in size of the defect and ease in prosthodontic management.⁷

Prosthetic rehabilitation of such patients is compromised by retentive and supportive elements available. The inability of the patient to tolerate pressure on localised tissues invariably results in a loss of marginal integrity and inferior cosmetic result.² However appearance deficiencies are only noticeable upon close inspection and not at normal conversational distances.

Prosthodontic management of such an extensive defect especially in an edentulous patient is a challenge to the prosthodontist. Meticulous attention to details during impression procedures and amount of undercuts to be blocked can dramatically improve the quality of the prosthesis and ensure complete satisfaction of the patient.

Conclusion:

Congenital palatal defects result in the formation of opening between the oral cavity and antrum. These defects are inconvenient to the patient because of oro-nasal communication which substantially interferes with important function of speech, swallowing, deglutition, and mastication. a major problem encountered during the rehabilitation of large defects where patient experiences increased weight of the prosthesis and compromises the retention of the prosthesis. A hollow bulb obturator prosthesis can help the clinician to overcome such problems. Hence we must try to restore the form and function of the oral and perioral structures that will enable the patient to re-enter the society with confidence, which is every patient's right.

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