

Case Report:

Rehabilitation of acquired soft palate defect with pharyngeal prosthesis

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ABSTRACT:

No cancer is minor to the affected individual which causes either disfigurement, dysfunction or both. Maxillofacial prosthetics is the art and science of anatomic, functional or cosmetic reconstruction of the regions of the maxilla, mandible and face those are missing or defective because of surgical intervention, trauma, pathology, developmental or congenital malformation by means of non-living substitutes. A pharyngeal prosthesis can be given in patients with congenital and acquired soft palate defects. The prosthesis separates the nasopharynx and oropharynx during speech and deglutition and it also provides a base against which surrounding muscles can function to provide adequate seal. Thus improves speech and prevents regurgitation from the nasal cavity. This case report highlights rehabilitation of acquired soft palate defect with a pharyngeal prosthesis which has fulfilled both the objectives of Control of nasal emission during speech and Prevention of regurgitation.

Keywords: Pharyngeal prosthesis, Oropharynx, Nasopharynx

INTRODUCTION:

Speech is a learning process and develops over an extended period of time.³

A maxillofacial defect may influence speech -

1. By changing the resonance properties of the vocal tract through inappropriate coupling of the nasal cavity.
2. By changing the capacity to direct or construct the flow of air.

Resection of hard and soft palate and selected structures results in a variety of anatomic and functional defects. These defects are tremendously inconvenient to the patient because of the loss of separation between oropharynx and nasopharynx which substantially interferes with the important function of speech and swallowing.⁴ This case report explains the fabrication of the pharyngeal prosthesis for acquired soft palate defect.

CASE REPORT:

A 58 years old, male patient with the history of carcinoma of soft palate came with the chief complaints of regurgitation on swallowing and nasal twang during speech. Patient had history of squamous cell carcinoma of the soft palate and had taken 30 doses of radiation for 12 months.

CLINICAL EXAMINATION:

Soft palate region treated with radiotherapy was completely healed. Hard palate and surrounding structures were normal. Patient had typical hyponasal voice quality during normal conversation. In lower mandibular arch, right third molar was present, removal of which was contra-indicated because of the recent history of the radiotherapy. (Figure 1 & 2)

PROCEDURE:

1. A preliminary impression was taken with the impression compound in stock metal tray which was extended posteriorly upto the palate with acrylic resin material to support the compound.

2. A custom impression tray was fabricated with autopolymerizing acrylic resin on the preliminary cast.
3. The custom acrylic resin tray was finished, polished and then checked in patient's mouth for proper extension, especially in posterior region.
4. Border molding was performed with low fusing compound labially, buccally and posteriorly also above and around the defect region. Patient was asked to do circular head movements from side to side, backward, forward with side to side movements of mandible during border molding procedure. Then he was asked to say 'ah' and to swallow.
5. Final impression was made with Zinc Oxide Eugenol paste. All the head movements, mandible movements and swallowing were performed before final impression material set.
6. The impression was removed, washed and inspected for accurate reproduction of details of tissue surface and periphery especially in the soft palate area. (Figure 3 & 4) Then impression was poured in dental stone and final cast was made.
7. After taking maxillo-mandibular relation record and final trial, the prosthesis was fabricated with heat cure acrylic resin in large size flask.
8. Two C - clasps were given on upper right and left canines for the purpose of retention.
9. Finally, the prosthesis was finished, polished and delivered to the patient. (Figure 5 & 6)

DISCUSSION:

The restoration of the soft palate presents a challenge completely different from that of the restoration of the hard palate. The mobility of the soft palate tends to interfere with velar extensions.⁵The reduction in size or function of the soft palate will lead to insufficient oronasal separation during functional

activities. In this case report, the soft palate was treated by radiotherapy instead of surgery. So the part of the soft palate was not missing but functionally disabled and patient was having complaints of regurgitation from the nasal cavity and voice twang. The answer to the problem is to construct a pharyngeal part of the prosthesis especially designed to attain the maximum utilization of the remaining structures and their mobility. Although, each pharyngeal extension is different in shape, they give the patient an effective functional mechanism that enhances speech and swallowing.

CONCLUSION:

The prime objective of treatment in patients with oronasal communication is a return to the physiologic functions of mastication, deglutition and speech. This pharyngeal prosthesis fulfilled the objectives. There was no regurgitation on swallowing after insertion of the prosthesis and nasal twang during speech improved with the period of time. (Figure 7, 8, 9 & 10)

Fig.1 Intra-oral photograph showing soft palate region treated with radiotherapy.

Fig.2 Intra-oral photograph showing lower residual ridge with lower right 3rd molar.

Fig.3 Final Impression of upper arch.

Fig.4 Final Impression of lower arch.

Fig.5 Impression surface of upper and lower prosthesis.

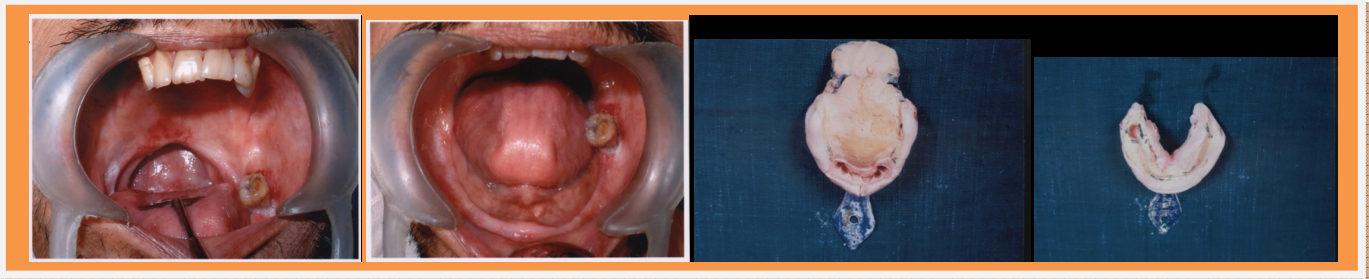
Fig.6 Polished & occlusal surfaces of upper and lower prosthesis.

Fig.7 Pharyngeal prosthesis in patient's mouth.

Fig.8 Lower prosthesis in patient's mouth.

Fig.9 Extra-oral photograph of patient without prosthesis.

Fig.10 Extra-oral photograph of patient with prosthesis.



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