Decision Making for Residual Palatoalveolar Cleft Defects: A New Classification

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Oral rehabilitation of adult patients with cleft lip and palate is related to the severity of the anatomical and functional alterations that hamper the proper closure of the nasopharynx. The ideal treatment is closure by bone graft and orthodontics. However, when surgery is not possible or when the patient does not wish to undergo surgery, a palatal prosthesis may offer the best solution in most clinical situations. The authors of this article propose a new classification to help the practitioner with decision making and prosthetic treatment planning for residual palatoalveolar cleft defects. *Int J Prosthodont 2015;28:167–168. doi: 10.11607/ijp.4123*

Cleft lips and palates (CLPs) and velopharyngeal insufficiency (VPI) are currently treated from the first few days of a child's life. Their treatment follows a multidisciplinary therapeutic calendar involving surgery, speech therapy, orthodontics, and maxillofacial prostheses.[1] In certain cases, although increasingly infrequent given the progress of surgical techniques, it is possible to encounter adult patients with residual sequelae of maxillofacial prostheses that have not been surgically treated.

Definition of the Issues

CLPs and VPI are particularly debilitating because they present significant anatomical, functional, and psychologic consequences. The palatal prosthesis represents an indispensible therapeutic option.[2] But what type of prosthesis should be chosen with respect to this type of residual palatoaveolar cleft defect? This article aims to provide a simple classification that brings together the clinical forms of residual clefts commonly encountered among adults as well as their adapted prosthetic solutions. This classification is limited to the study of residual clefts that continue through to adulthood. When they concern the soft palate, three categories can be distinguished[3]:

1. CLP with prior partial surgical reconstruction
2. CLP with no prior surgical treatment, generally due to an independent reason (eg, contraindication to surgery, lack of access to health care)
3. Cleft sequelae (after surgical failures that make it impossible to reoperate or due to surgical insufficiency)

Examination of the soft palate highlights the following possibilities within these categories:

- Soft palate CLP (no previous surgery)
- Secondary disunity and staphylorrhaphy
- Residual perforations
- Soft palates where suturing is too short
- Sclerosed soft palates (paralyzed or inert)
- Cases of pharyngoplasty

New Classification

Class I (divided but firm soft palate). An obturator is made consisting of a clasp placed at the center of the pharynx. The intermediary part is situated vertically, level with the Passavant pad, transversely at a distance of 3 mm from the velar mucosa (once the velopharyngeal sphincter has contracted; Fig 1).

Class II (sutured soft palate that is too short although still contractile; Fig 2). An obturator is used where the closing part is placed between the upper-posterior surface of the soft palate and the posterior wall of the pharynx. The intermediary part drops down to the median line along the lower anterior side of the soft palate, bypasses the lower edge of the soft palate, and rises toward the cave (Fig 3). The far end is situated midway between the soft palate and the posterior wall of the pharynx (Fig 4).

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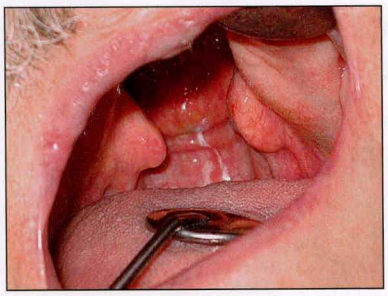

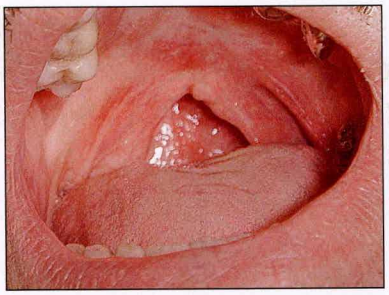

Fig 1 *(left)* Divided but firm soft palate and Passavant pad.

Fig 2 *(right)* Sutured soft palate that is too short although still contractile.

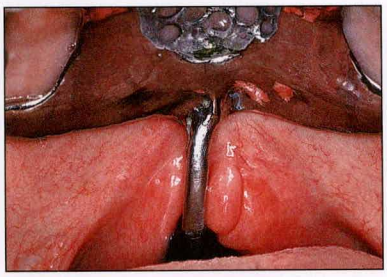

Fig 3 Intermediary part (too short, sutured soft palate).

Fig 4 Maxillary prosthesis with Class II obturator.

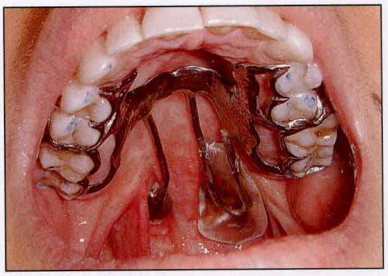

Fig 5 Pharyngoplasty and atypical obturator.

Class III (absent soft palate). This requires a palatal plate much like the one described in Class I (only the functional impression obviously differs given that the soft palate is absent).

Class IV (inert, sclerosed, or paralyzed soft palate). In this case, a Mazaheri-style obturator is adopted. This is a prosthetic device that raises the soft palate statically.

Class V (atypical soft palate following a pharyngoplasty). It is necessary to add a final class of "atypical" soft palates, currently encountered following certain pharyngoplasties where velopharyngeal inadequacies have remained. An obturator can be made, for example, comprising a double tutor and a double obturator on both sides of the sutured soft palate and posterior wall of the pharynx (Fig 5).

Discussion

In prosthetic treatment of edentulous CLP patients with hard and soft palate defects, it is sometimes difficult to obtain a good result because of the weight of the prosthesis and the difficulty of establishing an atmospheric seal.[4] An effective speech-aid prosthesis must have good retention and stability to improve oral functions, which is not possible in the absence of teeth.[5] In this case, and when it is possible, osseointegrated implants may be helpful to establish the support and mechanical retention needed to provide good prosthesis stability in such patients.

Conclusions

Palatal prostheses can significantly contribute to a patient's functional rehabilitation and enhanced quality of life. This is achieved by improved phonation and swallowing, although each patient's clinical needs are unique and require individual intervention responses by the dentist. Experience suggests that this prudent approach often includes the simplest and most efficient prosthodontic solution.

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