

Feeding Obturator- Prosthetic Rehabilitation of a Neonate with Cleft Lip and Palate

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Abstract: Cleft lip and palate is a congenital deformity of craniofacial region, associated with various other problems that crumbles the overall development of child. Feeding problems associated with cleft is a major concern, as it may lead to failure to thrive. This clinical report describes fabrication of feeding obturator for a neonate born with cleft lip and palate.

Keywords: Cleft lip and palate, Feeding obturator.

1. INTRODUCTION

Most common congenital defect involving the orofacial region is cleft lip and palate. Sometimes, it can be associated with skeletal anomalies, mental retardation, congenital heart defects, and ocular lesions.¹ Feeding problems are often associated with cleft anomalies, which make it difficult for the infant to maintain adequate nutrition.² Numerous approaches are suggested in literature to resolve feeding problems. Specially designed nipples with enlarged openings can increase the ejection of milk with reduced effort. Squeezable bottles appear easier to use than rigid feeding bottles. However, these options are not sufficient for large clefts. The concept of early treatment of cleft palate patients with feeding obturator was pioneered by McNeil. The feeding obturator is a prosthetic aid which restores the separation between the oral and nasal cavities.³ This article presents a case report showing prosthodontic management of a neonate with cleft lip and palate by fabricating feeding obturator.

2. CASE REPORT

A 3 day old male infant with complete unilateral cleft lip and palate was referred to the Department of Prosthodontics, Government Dental College, Shimla, Himachal Pradesh with the chief complaint of difficulty in feeding. After complete examination, decision was made to fabricate feeding plate to reduce feeding problem. (fig.1 & 2)

Preliminary impression of maxillary arch was made using impression compound. First the impression compound was softened in warm water and kneaded. Impression material was carried into baby's mouth using a prefabricated tray and pressed against hard palate, while the baby was held in prone position to prevent aspiration. Primary model was prepared using type III dental stone.



Fig 1: Extraoral view of the cleft



Fig 2: Intraoral view of the cleft

The defect in model was blocked out and a special tray was fabricated using auto-polymerizing acrylic resin. After intraoral evaluation, final impression was made using polyvinyl siloxane putty. (fig. 3)

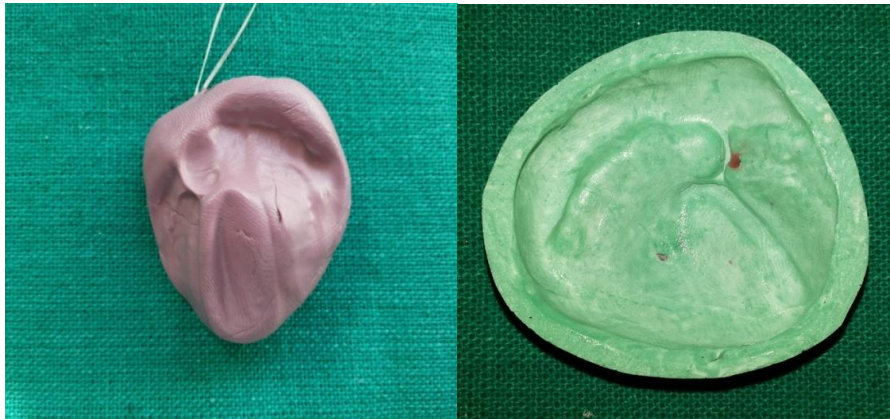


Fig 3: Polyvinyl siloxane impression

Fig 4: Master cast

Master cast was prepared (fig.4) and a feeding plate was fabricated using clear acrylic resin. A floss thread was attached to the feeding appliance for easy retrieval of appliance.(fig.5) Borders of feeding plate were rounded and polished in order to avoid trauma. Instructions were given to the parents on how to insert, remove and clean the prosthesis.

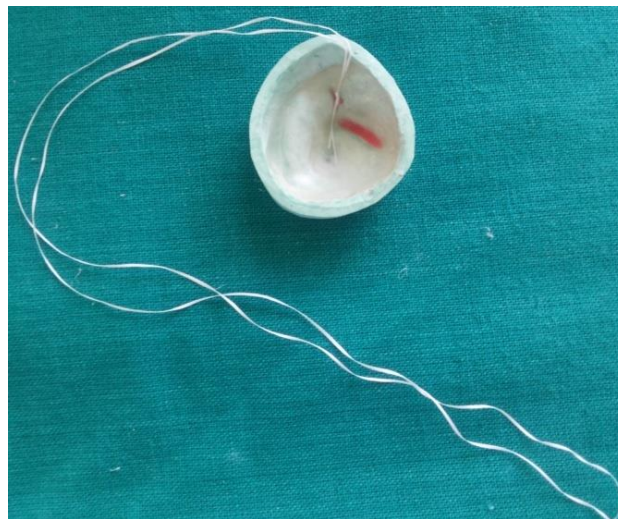


Fig 5: Feeding obturator

3. DISCUSSION

Impression procedures in cleft patients pose challenges in infants, including the size constraints imposed by the infant's oral cavity, anatomical variations associated with severity of clefts and a lack of ability of the infant to cooperate and respond to commands. Polyvinyl siloxane used as impression material does not extrude deep into undercut areas in region of cleft and also resist tearing during removal.⁴

Feeding obturator restores palatal cleft and aid in creating sufficient negative pressure which allows adequate sucking of milk. It facilitates feeding and reduces nasal regurgitation. A comprehensive management of children born with cleft lip and palate is best accomplished by the multidisciplinary team approach.⁵ As a team member dentists are expected to keep exploring the new and innovative treatment options to assure the most current care available.

4. SUMMARY

This case report describes a method for the fabrication of a feeding plate for a 3 day old neonate with cleft lip and palate, using a prefabricated acrylic tray for making impression. Feeding such infants poses great challenge to the parents. By fabricating a feeding plate, we can minimize their feeding problems.

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