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SINGLE-VISIT FEEDING PLATE REHABILITATION IN AN 8-DAY-OLD INFANT WITH UNILATERAL CLEFT LIP AND PALATE: A CASE REPORT

[1]*Dr. Pallavi Patil, [2]Dr. Shivakumar Puranik, [3]Dr. Smitha M., [4]Dr. Ashwini, [5]Dr. Chandan B.L.

[1,4,5]Postgraduate Student, Department of Prosthodontics,HKE's S.Nijalingappa Institute of Dental Science and Research, Kalaburagi, Karnataka, India.
[2]Professor, Department of Prosthodontics,HKE's S.Nijalingappa Institute of Dental Science and Research, Kalaburagi, Karnataka, India.
[3]Professor and HOD, Department of Prosthodontics NSVK SV Dental College and hospital, Banglore, Karnataka, India.

***Corresponding Author: Dr. Pallavi Patil**

Postgraduate Student, Department of Prosthodontics,HKE's S.Nijalingappa Institute of Dental Science and Research, Kalaburagi, Karnataka, India. **DOI:** https://doi.org/10.5281/zenodo.20471150

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ABSTRACT

Background: Cleft lip and palate (CLP) is among the most common congenital craniofacial anomalies and often presents with significant feeding difficulties during infancy. Impaired feeding results from the inability to generate negative intraoral pressure due to communication between the oral and nasal cavities. **Case Presentation:** An 8-day-old neonate with unilateral cleft lip and palate was referred to the Department of Prosthodontics with complaints of difficulty in feeding. Clinical examination revealed unilateral cleft involvement of the lip, soft palate, and uvula. A primary impression was made using low-fusing impression compound, and a feeding plate was fabricated using self-cure clear acrylic resin in a single clinical visit. The appliance was finished, polished, and secured using dental floss for safety and easy retrieval. **Outcome**: The feeding plate effectively separated the oral and nasal cavities and improved feeding efficiency. The infant demonstrated improved suckling ability and reduction in feeding difficulties. **Conclusion:** Early prosthetic intervention using a feeding plate is a simple and effective treatment modality in infants with cleft palate. A single-visit technique provides immediate functional benefits and may improve nutritional status before definitive surgical correction.

KEYWORDS: Feeding plate; cleft lip and palate; neonatal rehabilitation; feeding obturator; prosthodontics.

INTRODUCTION

Cleft lip and palate are among the most prevalent congenital craniofacial anomalies resulting from failure of fusion of facial processes during embryonic development. These defects can affect feeding, speech, hearing, dentition, and psychosocial development.[1] Neonates with cleft palate often face difficulty in feeding due to the communication between oral and nasal cavities, resulting in inadequate generation of negative pressure required for suckling. Consequently, these infants may experience prolonged feeding times, nasal regurgitation, choking episodes, and inadequate weight gain.[2] A feeding obturator serves as an interim prosthetic appliance by separating oral and nasal cavities and providing a rigid platform against which the infant can compress the nipple during feeding. Such appliances improve feeding efficiency and facilitate normal growth and development until surgical correction can be performed.[3-4]

This case report describes the fabrication and clinical management of a feeding plate in an 8-day-old infant using a single-visit technique.

CASE REPORT

An 8-day-old neonate was referred to the Department of Prosthodontics with a chief complaint of difficulty in feeding. Medical history revealed that the child was born with unilateral cleft lip and palate. (fig 1)

Clinical examination showed unilateral cleft involvement extending through the lip, soft palate, and uvula. Feeding difficulties and inability to suck effectively were reported by the mother.

FEEDING PLATE FABRICATION

Primary impression was made using low-fusing impression compound (DPI). The infant was positioned on the mother's lap in an upright position during impression making to minimize aspiration risk. The softened material was gently adapted over the palatal area and vestibular regions.

The impression was carefully examined for completeness and accuracy. Beading and boxing procedures were carried out.(fig 2) and the cast was poured using Type IV dental stone. (fig 3) A feeding plate was fabricated using self-cure clear acrylic resin over the master cast. Following polymerization, the appliance was finished and polished.

One hole is placed in the anterior region of the feeding plate, and dental floss was attached for safety and easy retrieval. The feeding plate was inserted and evaluated intraorally. (fig 4) and checked for fit, stability, and comfort.

The mother was instructed regarding

- Placement and removal of appliance
- Cleaning and maintenance procedures
- Feeding instructions
- Need for regular follow-up
- Monitoring for tissue irritation

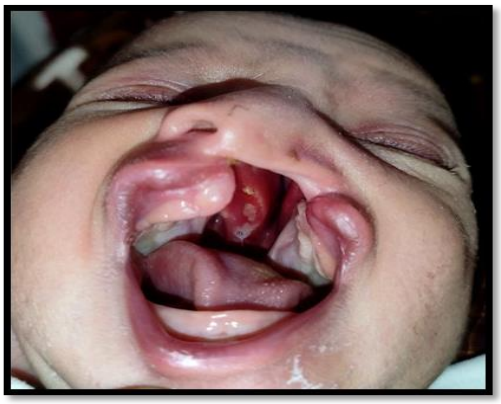

Fig. 1a.

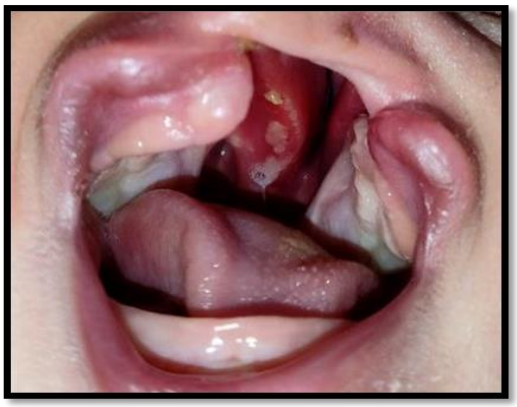

Fig. 1b.

Fig. 2.

Fig. 3.

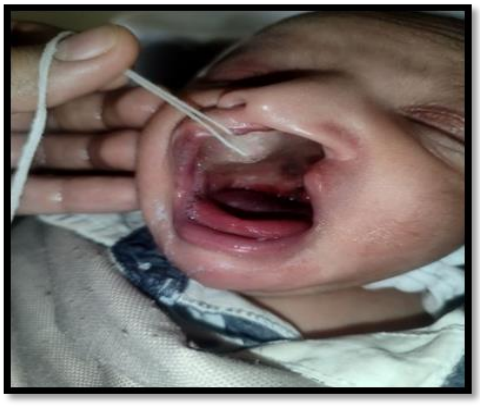

Fig. 4.

DISCUSSION

The main objective during the first month of cleft palate infant's life is proper weight gain, which results from proper feeding, making the infant ready for future surgical correction.[6] Construction of a feeding plate not only fills the gap between the nasal and oral cavities, but it also achieves maximum treatment benefits for such patients; at the same time it increases awareness and enhances the skills of diagnosis and management aspects of all the specialists in the interdisciplinary team.[7] Making an impression is the first challenging clinical step in cleft palate infants. The various factors are lack of cooperation on behalf of parent, oral cavity is too small to be adequate for commercially available impression material and undercuts of the defects.[8] Therefore, it is important to take care of infant positioning, tray used and the impression material in order to maintain airway patency during impression making. Prone position was essential in keeping the tongue in forward position and avoiding posterior regurgitation of the impression material. Infant crying was satisfactory for ensuring airway patency and elimination of any possibilities of impression material aspiration. Impression was made with putty because high viscosity material reduces the aspiration risk. In addition, it reproduces the areas of interest reasonably well.

CONCLUSION

Inadequate nourishment due to difficulty in feeding affects the health and act as a stumbling block in the milestone of normal development. The feeding plate overcomes the hinderance which occur during the normal growth and development of a cleft patient and thus it should be advised as early as possible soon after birth. It is a handy, risk free procedure that can be carried out in the regular OP and that decreases the stress on the parents and is a comforting for the infant. It act as an important tool for feeding, development of palatal shelves, prevention of tongue distortion, and nasal regurgitation.

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