

SINGLE VISIT FEEDING PLATE FOR INFANT: A CASE REPORT

*Ankitha Thejus K, **Sanjayagouda B Patil, ***Kiran Kumar H S, *Navya N B, *Abhilasha S B

*Postgraduate, ** Professor and Head, ***Reader, Department of Prosthodontics, Crown and Bridge including Implantology, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan -573202, Karnataka. | Corresponding Author: Dr. Ankitha Thejus K, Email: ankithathejus07@gmail.com

<https://doi.org/10.55231/jpid.2023.v07.i01.06>

Abstract

A child born with cleft lip and palate may experience difficulties while feeding. It is the most common congenital craniofacial malformations. Feeding difficulties should be assessed and intervened as early as possible, as they are an important aspect of the multidisciplinary team approach in the management of cleft lip and palate. Feeding obturators improve feeding thereby contributing to weight gain and a thriving state of health, a prerequisite for surgical repair of the defects. A successful prosthesis should meet the physiological, psychological and aesthetic needs of the patient. This article describes the procedure for rehabilitation of cleft palate patient with feeding plate.

Key words: Feeding plate, cleft lip and palate, Neonate.

Introduction

Cleft lip and palate (CLP) is one of the most common congenital craniofacial defects. Cleft palate (CP) is a fissure in the midline of the

palate due to failure of the two sides to fuse in embryonic development¹. Its consequences affect several system and functions that includes feeding, dentition, speech as well as the social and psychological problems which have an impact on the child and the parent.² Neonates born with cleft palate have oronasal communication which diminishes the ability to create negative pressure necessary for suckling.³ The feeding plate obturates the cleft and restores the separation between oral and nasal cavities. It creates a rigid platform towards which the baby can press the nipple and extract the milk.⁴ It facilitates feeding, reduces nasal regurgitation, reduces the incidence of choking and shortens the length of time required for feeding³. The obturator also prevents the tongue from entering the defect⁵ and interfering with the spontaneous growth of palatal shelves towards the midline. It also helps to position the tongue in correct position to perform its functional role in the development of jaws and contributes to speech development. The obturator reduces the passage of food into the naso-pharynx thus reducing the incidence of otitis media and naso-pharyngeal infections.⁴ Feeding plate restores the basic

PROSTHETIC AND IMPLANT DENTISTRY

Official Publication of Indian Prosthodontic Society
Kerala State Branch

functions of mastication, deglutition and speech production until the cleft lip and/or palate can be surgically corrected.

Case report

A 3 days old neonate was referred to the Department of Prosthodontics with chief complaint of difficulty in feeding. On examination, it was found that the child was born with unilateral cleft palate. Intraoral examination revealed a cleft in the soft palate and uvula (fig. 1)

Fabrication of feeding plate

A perforated wooden spoon was selected and Primary impression of the maxillary arch with the cleft was made with putty addition silicone. The wooden spoon was used to carry the impression material into the infant's mouth. The polyvinyl siloxane material was gently pressed against

the hard palate and into the buccal and labial vestibules, while the baby was held in mother's lap. The impression was inspected thoroughly (fig. 2). Beading and boxing were done and cast was poured with type III dental stone with addition of 2% NaCl to decrease setting time (fig. 3). A 2mm modelling wax was adapted to the cast to form the feeding plate (fig.4). Flasking, dewaxing and acrylicization was done in conventional manner with a short curing cycle to lesser the laboratory time. Heat cured clear acrylic resin was used for fabrication of feeding plate. After finishing and polishing, two holes were placed in the anterior part of the feeding plate and dental floss was tied for fastening and easy removal (fig. 5). Feeding plate was checked in patient's mouth and mother was asked to feed the baby and check for the comfort of the same. Post insertion instructions were provided on how to use and maintain the feeding appliances (fig. 6).



Fig. 1 Preoperative photograph Fig. 2 Primary impression

Fig. 3 Primary cast



Fig. 4 Wax up

Fig. 5 Final prosthesis

Fig. 6 Post operative photograph

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 team⁷.

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.

References

1. Lodhi TG, Patil SKB, Bahetwar SKK, Sharma AB, Ninawe NS, Dolas AR. Fabrication of feeding plate in cleft palate patient: A case report. *Dent J Adv Stud* 2019;7:35-37.
2. Agrawal A, Rana V, Shafi S. A feeding appliance for a newborn baby with cleft lip and palate. *Natl J Maxillofac Surg* 2010;1:91-93.
3. Rathee M, Hooda A, Tamarkar A, Yadav S. Role of feeding plate in cleft palate: Case report and review of literature *Int.J.Otolaryngol* 2009;12:1-7.
4. Ali AMM, Kamel AA. Single visit feeding plate for a 3 month-old infant with cleft palate: A case report. *J Dent Clin Dent Prospect* 2017;11(4):253-56.
5. Durate GA, Ramos RB, Cardoso MC. Feeding methods for children with cleft lip and/or palate: a systemic review. *Braz J otorhinolaryngol* 2016;82(5):602-9.
6. Balkhair M, SS, Abd El-Sayed FA, Fahim F. Birth incidence of cleft lip and/palate in Dakhalia: a survey study: *ED journal* 2016;62:2523.
7. Jones SD, DJ Drake. Case series of undetected intranasal impression material in patients with clefts. *Br J Oral Maxillofac Surg* 2013;51(3):34-36.
8. Turner L, Jacobson C, Humenczuk M, Singhal V K, Moore D, Bell H. The effect of lactation and prosthetic obturator appliance on feeding efficiency in infants with cleft lip and palate. *Craniofac J* 2001;38:519-24.