

Feeding Obturator in a Newly Born Child with Cleft Lip and Palate - A Case Report

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Abstract

Purpose: To understand the importance of feeding plate in infants with cleft palate and/or lip.

Method: A feeding obturator was fabricated in an infant with cleft palate along with cleft lip.

Result: A feeding obturator was fabricated and the infant was able to drink milk without regurgitation.

Conclusion: The feeding obturator fabricated by this method was successfully used by the infant and it led to better nutrition status of the infant.

Keywords: Cleft palate, Feeding plate

Introduction

Cleft lip and cleft palate are one of commonest developmental defect in maxillofacial region.¹ Neonates, born with cleft lip and palate, have oronasal communication. Due to this communication, it is very difficult to feed the neonates as they are always dependent on sucking to obtain milk from the mother's breast.² Because of the oronasal communication, the baby is unable to create negative pressure inside the oral cavity which is required for sucking.²

These defects result in many other complications like difficulty in speech, problem in dentition and mastication, and lack of facial growth. Apart from these, it may create

negative social impact on the patient and his/her family.³

Case Report

This report presents a case of a newly born baby girl. The infant was referred to the Department of Prosthodontics, King George Medical University with the chief complaint of difficulty in feeding. On extraoral examination, there was unilateral cleft lip (Fig. 1). Intraoral examination revealed unilateral cleft of the palate involving soft and hard palate (Fig. 2). There was no family history of clefting or any other congenital defect. After examination, fabrication of feeding appliance was planned for feeding.

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Figure 1



Figure 2

Feeding Appliance Fabrication

A preliminary maxillary impression was made with the help of a prefabricated custom impression tray and fast-set putty elastomeric impression material. During the entire procedure, the infant was fully awake and crying to ensure a patent airway. The infant was held in upright position by the mother to prevent aspiration of the material. Impression was removed from oral cavity when the material was set (Fig. 3). It was poured and the primary cast was obtained (Fig. 4). A custom tray was fabricated by using self-cure acrylic resin on the primary cast. A secondary impression was made with rubber base impression material using this custom tray (Fig. 5). Final cast was poured with the help of die stone (Fig. 6). The undercuts in cleft region of the

palate and alveolus was filled with modelling wax (Fig. 7). A feeding obturator was fabricated using clear, self-cure resin material (Fig. 8). A soft denture liner was added in the area that required molding. An extraoral retentive button was fabricated. Orthodontic elastics were used for retentive taping. Finishing and polishing was done to obtain smooth edges. The feeding appliance was positioned in the patient's mouth (Fig. 9). Thereafter, the mother was asked to feed the infant. It was seen that the child was successfully able to feed with the feeding appliance and there was no nasal regurgitation. Parents were demonstrated about the use and hygiene maintenance of the feeding plate. A regular follow-up after 24 hours and monthly follow-ups later were scheduled and the parents were advised to use the appliance till surgical intervention.



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9

Results

A feeding obturator is a necessity for a child, who is born with cleft palate, since it helps the infant to feed without nasal regurgitation. Also, it helps the parents by having a positive impact on their social and mental wellbeing.

Discussion

Clefts are mostly seen in Asians (14:10,000 births), followed by Whites (10:10,000 births) and African Americans (4:10,000 births).⁴ In the unilateral clefts, the left side-clefts are more common than the right-side clefts (70% of the cases).⁵ Apart from difficulties in feeding, children born with cleft lip and cleft palate may have several problems later in life such as speaking, and severe psychological problems at school age and in their social lives.⁶ The management of this developmental malformation is multidisciplinary and involves surgical, dental, and orthodontic treatment, speech training, audiological treatment, and psychological therapy throughout childhood.

Feeding is the foremost concern for such patients and so feeding obturator is given as soon as possible to the patient to ensure the good health as these patients get their surgical treatment started at the age of three to six months. A feeding obturator is a device that creates a seal between the oral and nasal cavities and controls the flow of milk. Feeding device is inserted over the infant's hard palate, which allows him or her to compress the nipple easier because it provides a contact point and helps the infant to suck milk. It facilitates feeding and reduces nasal regurgitation.

Difficulties encountered during impression making includes the size constraints imposed by the infant's oral cavity, anatomical variations associated with the severity of cleft, and a lack of ability of the infant to cooperate and respond to commands. Various impression materials have been employed for making impressions of the affected

area. An ideal impression material should exhibit certain characteristics in both clinical and laboratory settings. Primary impression was taken using rubber base impression material on a previously fabricated tray. The material used for final impression was heavy-body rubber base, which has the advantage of reproducing all the areas of interest with good surface details and resists tearing; as a result, removal is atraumatic to the infant. Additionally, in a laboratory setting, the material remains dimensionally stable and permits accurate pouring of multiple casts.

A regular follow up of the infant is required for the examination of oral mucosa, which is very delicate and easily damaged by the obturator. Hence check-up should be done in every 3–4 weeks at which the bilateral sides of border are reduced to accommodate for growing arches. A new obturator should be constructed every three months to accommodate for the enlarged craniofacial sutures at growth. Infant's mother should be advised to hold the infant in an upright or semi-upright position during feeding so that the swallowed air can be expelled during the feeding process

Conclusion

Thus we see that fabrication of a feeding plate is a challenging procedure which requires the cooperation of the dentist and parents till the child grows up and understands the complexities related to the cleft palate condition. A feeding obturator not only helps the child in proper feeding and hence nutrition, it also boosts up the confidence of the parents who are unaware of the complications that can precede following regurgitation which may result without the use of a feeding obturator

Conflict of Interest: None

References

1. Kapoor D, Gard, D. Immediate rehabilitation with

- feeding appliance of a three day old neonate with cleft lip and palate – A case report. *JCMS Nepal* 2017; 13(2): 293-95.
2. Patel D, Goyal R, Puri T. Presurgical nasoalveolar moulding- an adjunct to facilitate surgical repair in infants with cleft lip and palate. *Mod Plast Surg.* 2013; 3: 34-42.
 3. Wyszynski DF, Beaty TH, Maestri NE. Genetics of nonsyndromic oral clefts revisited. *Cleft Palate-Cranio. J.* 1996; 33: 406-17.
 4. Agbenorku P. Orofacial Clefts: A Worldwide Review of the Problem. *ISRN Plastic Surgery* 2013: 1-7.
 5. Ravichandra KS, Vijayaprasad KE, Vasa AAK et al. A new technique of impression making for an obturator in cleft lip and palate patient. *J Indian Soc Pedod Prev Dent.* 2010; 8(4); 311-14.
 6. Narendra R, Sashi Purna CR, Reddy SD et al. Feeding obturator – A presurgical prosthetic aid for infants with cleft lip and palate - Clinical report. *Ann Essences Dent* 2013; 5(2): 1-5.

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