

Obturator for Cleft Palate – A Case Report

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ABSTRACT

Background: Cleft lip and palate is associated constellation of problems that need to be solved for successful habilitation. Neonates with a cleft palate have difficulty in eating which may lead to failure to thrive. One of the immediate problems to be addressed in newborn is difficulty in feeding. Obturators are fabricated to overcome such problems in infants. The obturator prevents the tongue from entering the defect 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. A case of 1month old infant with cleft palate for whom obturator was made is presented here.

Keywords: Cleft palate, Infants, Palatal obturators.

INTRODUCTION

Clefts of lip and palate are the most common congenital deformities involving the orofacial region¹. Incidence of such defects is 0.28-3.74 per 1,000 live births². The consequences of cleft lip & palate are impaired functions of several systems that include feeding, facial growth, dentition, speech and the social and psychological problems which have an impact on the child and parent as well³.

Cleft palate is defined as a furrow in the palatal vault. The oro-nasal communication diminishes the ability to create negative pressure which is necessary for suckling⁴. To compensate, the baby presses the nipple between the tongue and the hard palate to squeeze out the liquids and milk, but this mechanism is insufficient if cleft is wide and the nipple gets trapped inside the defect⁵. The feeding process is also complicated by nasal regurgitation of food, excessive air intake that requires frequent burping and choking⁶.

The feeding obturator 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 milk⁷. It facilitates feeding, reduces nasal regurgitation, reduces the incidence of choking and shortens the length of time required for feeding⁸. The obturator reduces the passage of food into the naso-pharynx thus reducing the incidence of otitis media and naso-pharyngeal infections⁹. Feeding obturator restores the basic functions of mastication, deglutition and speech production until the cleft lip and/or palate can be surgically corrected.

CASE REPORT

A 1 month old infant presented with a history of cleft palate associated with difficulty in feeding. The mother reported that the baby was not able to suckle milk properly. There was no history of craniofacial clefts in maternal or the paternal family of the child. The pregnancy of the mother was uneventful. Intraoral examination revealed a cleft in the soft palate. After complete examination of the patient it was decided to fabricate a feeding plate for the patient, so that it reduced the feeding problem. A preliminary impression was made with an impression compound material. A cast was poured on the preliminary impression obtained. A

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custom tray was then fabricated by using self-cure acrylic resin. With the help of the custom tray, a secondary impression was made using rubber base impression material (Figure 1). Final cast was obtained and a feeding obturator was then made on the final cast (Figure 2). Custom made straps were attached to the feeding appliance (Figure 3) because they prevent aspiration and help in easy retrieval of appliance. They also help in gaining support for retention from occipital region. The feeding appliance was placed in the oral cavity of the newborn and child was easily fed with the help of the appliance (Figure 4).

DISCUSSION

Breast feeding a child with a cleft palate can be challenging. The opening in the palate makes it impossible for the child to create suction. The baby may have difficulty in locating a place on the palate to press the breast against and to express milk.



Fig 1: Secondary impression making.



Fig 2: Fabrication of feeding obturator.



Fig 3: Custom made Straps for securing obturator.



Fig 4: Feeding obturator in infant's mouth.

However, the amount of difficulty will vary based on the severity of the cleft. In order to be successful in breast feeding a child with a cleft palate, the mother needs to implement some modifications¹⁰. For example the position like the modified football hold (where child is usually held at an angle of 45°), can be used as it minimizes nasal regurgitation. There are a variety of feeding devices that can be very useful in successfully feeding an infant with a cleft lip and palate, like a plastic squeeze bottle, soft nipple, specially designed nipple with enlarged opening and wide based nipple (useful in sealing off the cleft lip). 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 express milk¹¹. Oral hygiene is a concern because it is a plastic appliance, which can cause irritation to the palate, so a good oral hygiene needs to be maintained.

CONCLUSION

A feeding appliance given to the infant effectively separates the oral cavity from the nasal cavity and is of great help in feeding

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Proffit WR, Fields HW, Sarver DM. Contemporary Orthodontics. 4th ed. Mosby Elsevier India 2007.
2. Singh G. Text book of Orthodontics. 1st ed. Jaypee India. 2004.
3. Reid J. A review of feeding interventions for infants with cleft palate. *Cleft Palate Craniofac J.* 2004;41(3):268-78.
4. Samant A. A one-visit obturator technique for infants with cleft palate. *J Oral Maxillofac Surg.* 1989;47(5):539-40.
5. Shprintzen RJ. The implications of the diagnosis of Robin sequence. *Cleft Palate Craniofac J.* 1992;29(3):205-9.
6. Choi BH, Kleinheinz J, Joos U, Komposch G. Sucking efficiency of early orthopaedic plate and teats in infants with cleft lip and palate. *Int J Oral Maxillofac Surg.* 1991;20(3):167-9.
7. Osuji OO. Preparation of feeding obturators for infants with cleft lip and palate. *J Clin Pediatr Dent.* 1995;19(3):211-4.
8. Goldberg WB, Ferguson FS, Miles RJ. Successful use of a feeding obturator for an infant with a cleft palate. *Spec Care Dentist.* 1988;8(2):86-9.
9. Oliver HT. Construction of orthodontic appliances for the treatment of newborn infants with clefts of the lip and palate. *Am J Orthod.* 1969;56(5):468-73.
10. Kummer AW. *Cleft Palate and Craniofacial Anomalies.* 2nd ed. Clifton Park, NY: Thomson Delmar Learning; 2008.
11. Saunders ID, Geary I, Fleming P, Gregg TA. A simplified feeding appliance for the infant with a cleft lip and Palate. *Quintessence Int.* 1989;20(12):907-10.