

Case Report

FEEDING OBTURATOR - BENISON FOR NEWBORN WITH CLEFT LIP AND PALATE - A CASE REPORT

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ABSTRACT

Cleft lip and palate are facial and oral malformations that occur because of malunion during development which is related to feeding issues within the new born infant. The reduced oronasal communication creates a negative pressure, which helps in suckling. It is difficult to maintain adequate nutrition in the infant because of the associated feeding problem. The feeding plate prosthesis helps in obturating the cleft by restoring and re-establishing the separation between the oral and nasal cavities. This article presents a case in which feeding plate was fabricated for neonate born with cleft lip and palate.

Keywords:

Cleft lip and palate, feeding obturator

INTRODUCTION:

Cleft lip and palate is the most common congenital deformity which involves the orofacial region^{1, 2}. It is characterized by the presence of oronasal communication, nasal regurgitation of oral liquid, frequent burping due to excessive air intake during deglutition, and choking³. This complications leads to the delay in the overall development of the newborn and creates anxiety among the parents. The treatment of cleft lip and palate requires a multidisciplinary approach. Lip repair is achieved by the time the infant is 2 to 6 months old, but repair of the palate is usually delayed until 12 months to 2 years of age because early repair of the palate may have a negative effect on the growth and development of the maxilla due to the

resulting scar tissue. Maintenance of adequate nutrition is essential to allow normal growth of the newborn until the time of surgical intervention. Feeding plate is the prosthesis which obturates the cleft so that the infant can generate negative pressure within the oral cavity, which helps in suckling. It helps in correct positioning of the tongue and perform its functional role in the development of the jaws⁴. This case report describes the fabrication of the feeding plate prosthesis for newborn with cleft lip and palate.

CASE REPORT - A 2 month old female infant with her parent reported reported to the Department of

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Fig.1 Intraoral view of defect



Fig.2 Fabricated custom tray



Fig.3 Impression made



Fig.4 Fabricated feeding prosthesis

Prosthodontics, Sharavathi Dental College and Hospital, Shimoga with the chief complaint of feeding. The mother reported that the baby was not able to suckle milk properly and there was nasal regurgitation of the oral liquids.

PROCEDURE - On intraoral examination, unilateral cleft on left facet involving lip, alveolus, hard palate, soft palate was seen(Fig.1).

After complete examination, it was decided to fabricate feeding plate to reduce feeding problem. The parents were explained about the procedure and informed consent was taken. A perforated impression tray was fabricated using auto polymerized clear acrylic resin (Fig.2).

It was evaluated intraorally and adjusted in accordance with the defect of the patient. Polyvinylsiloxane putty impression material was used. The infant was held upright by mother to prevent aspiration of material. The putty was adapted until the impression material

adequately covered the anatomy of the upper gum pads. Once the impression material was set, the putty tray was removed and the mouth was examined for residual impression material (Fig.3).

The impression was then poured with Type IV dental stone to obtain an accurate cast. The master cast was inspected for any significant undercuts in the cleft area, which were blocked with wax. Separating media was applied on the cast. The feeding obturator was fabricated using heat polymerizing clear acrylic resin, following compression moulding technique. Dental floss was attached to appliance during polymerization, to provide a safety mechanism in case of gagging or accidental swallowing. (Fig.4)

All the borders of the appliance were rounded and polished in order to avoid trauma. Feeding obturator was inserted into patient's mouth and it was checked for fit, comfort and retention. Final finishing and polishing of the feeding plate was done before delivering the prosthesis. The appliance was placed in



Fig.5 feeding plate insertion

infant's oral cavity and patient's mother was asked to feed the baby and it was noted that there was no nasal regurgitation and child was successfully able to feed with the feeding obturator in place without any discomfort. (Fig.5)

The whole process of impression making, fabrication of feeding obturator and insertion was done in a single day. Instructions were given to the parents on how to insert, remove, and clean the prosthesis. They were also instructed to thoroughly clean the baby's oral cavity and cleft with a soft cloth soaked in warm water after every feed. The patient was seen after 24 hours for adjustment, and then patient was followed up regularly after 3 month interval.

DISCUSSION - Feeding plate prosthesis restores palatal contours and cleft. It helps in creating sufficient negative pressure which allows adequate sucking of milk⁵. Patient with cleft lip and palate requires comprehensive management which is accomplished by multidisciplinary team approach. Fabrication of feeding plate helps in eliminating the immediate problems i.e., proper nourishment and prevention of infections⁶.

Difficulty in feeding affects the health and acts as obstacle in the normal development of the newborn. A regular follow up of the infant is required for the examination of the oral mucosa and checkup after every 3-4 weeks during which the bilateral borders are reduced to accommodate growing arches. The mother

should be advised to hold the infant in an upright position or semi-upright position in feeding state so that the swallowed air can be expelled during the feeding process.

The feeding plate fabricated has the advantages of being light weight, moldability, and good fit to palate and ridges.

CONCLUSION - The feeding obturator aids in nursing, stimulates oral-facial development, helps develop the palatal shelves, prevent tongue distortion and nasal septum irritation, decrease the number of ear infections, expand the collapsed maxillary segment, constrict the expanded anterior part of the maxilla which aids the cleft palate team of health care practitioners and also a psychological help to the parents. It overcomes the factors that acts as a stumbling block in the milestones of the normal development and should be inserted as early as possible.

ETHICAL CLEARANCE - Obtained from ethical clearance committee

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