Feeding Obturator in Cleft Lip Patient

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ABSTRACT

Cleft lip is the most common congenital defect which affects the orofacial region. Etiological factors are either hereditary or environmental. These defects are genetically male sex-linked recessive. Environmental factors may be due to viral infections, influence of drugs like excessive use of steroids, antibiotics, insulin, antiepileptic drug, and exposure to radiations in the first trimester of pregnancy. The rehabilitation of such infants primarily involves the closure of the defect. Neonates with cleft lip have difficulty in feeding which may lead to failure to thrive.

Keywords: Cleft lip, Feeding obturator, Patent airway, Speech.

CASE REPORT

A 15-day-old male infant reported to the Department of Prosthodontics, Crown and Bridge at the Institute of Dental Sciences, Bareilly, with the complaint of difficulty in feeding. On examination, extraoral cleft lip was found on the left side (Fig. 1). Intraorally, there was no congenital defect. After complete examination of the patient, decision was made to fabricate feeding plate to reduce feeding problem.

TECHNIQUE

A modeling wax sheet was warmed and adapted intraorally to form a wax template for fabrication of custom tray. Custom tray was fabricated using autopolymerizing self-cure acrylic resin (Dental Products of India) (Figs 2 and 3). Polyvinylsiloxane putty material (Dental Products of India) was used to make impression (Figs 4 and 5). The infant was held with his face toward the floor in order to avoid aspiration. Also, it was noted that the infant was crying during the impression-making procedure. This ensured a patent airway continuously throughout the procedure. The tray was seated until the impression material adequately covered the anatomy of the upper gum pads. Suckling motion was ensured to create proper seal. Once the impression material was set, the tray was
removed, and the mouth was examined for residual impression material. The impression obtained was then poured with die stone to obtain cast, over which feeding plate was fabricated using heat-cure autopolymerizing acrylic resin (Fig. 6). Two retentive arms were made from 21 gauge stainless steel wire with tags at the end of wire component for retention of the feeding plate (Fig. 7). It was lined by soft denture lining material (Silagum, DMG, Chemisch Pharmazeutische Fabrik GmbH, Tokyo, Japan) that provided cushioning effect.
and increased the retention (Fig. 8). Patient’s mother was instructed for removal and placement of prosthesis. Bottle feeding was done and it was observed that the patient could feed comfortably (Fig. 9).

**DISCUSSION**

The feeding plate can be effective in overcoming some of the feeding problems associated with a cleft lip defect. An obturator prosthesis may also reduce the stress both parents and the baby experience with the feeding process. It also promotes neonatal weight gain, which is important in preparing the baby for corrective surgery. A variety of impression materials, such as alginate, low fusing compound, polysulfide impression material may be used to make a definitive impression. In the present case, a putty-type polyvinyl siloxane impression material was used to make the impression because its high viscosity reduced the danger of aspiration or swallowing. Impression compound is thermoplastic material, overheating can lead to scalding or burn and leaching out of volatile components which can cause harm to the infant. In the present case, feeding plate appliance was made of heat-cured acrylic resin that provided a rigid platform which was necessary for suckling. The infant was held with his face toward the floor in order to prevent aspiration in the event of vomiting and also asphyxiation due to airway obstruction. It was also ensured that the infant made sucking motions during impression-making as this helped to ensure better moldability. A regular follow-up of the infant was required for the examination of oral mucosa, which was very delicate and easily damaged by the obturator. Also checkup occurred every 3 to 4 weeks during which the bilateral sides of borders were reduced to accommodate the growing arches. A new obturator should be constructed every 3 months to accommodate the enlarged craniofacial sutures due to growth.

**CONCLUSION**

A feeding obturator is a good alternative for restoration of lip seal and sucking capacity in newborn babies with cleft lip and palate. It is simple, easy to fabricate, and cost effective. This article described a method for the fabrication of a feeding plate for a neonate with cleft lip. Though there are many materials and techniques available for fabrication of the prosthesis, the choice depends on the requirement of the case. The recall visit of the patient is necessary in this case. After a period of 3 months, surgical treatment was advised.

**REFERENCES**