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Research Paper

A Feeding Appliance for an Infant with Cleft Palate – A Case Report

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ABSTRACT:*The major findings reveal that infants with cleft lip and palate are to be fed with specific successful feeding techniques and devices for adequate weight gain and specialized professionals are to be involved in the direct care of these infants. Choosing best treatment, support, education, integrated professional care and regular follow up is required for achieving successful early feeding in children with cleft lip and palate.*

Keywords: *Cleft Lip and Palate,feeding prosthesis*

I. INTRODUCTION

Cleft lip and palate is one of the most common developmental defects arising in the head and neck region. Neonates with cleft palate have difficulty in eating which may lead to failure to thrive.[1].The oro-antral communication diminishes the ability to create negative pressure which is necessary for suckling[2,3].The feeding process is also complicated by nasal regurgitation of food[4,5,6], excessive air intake that requires frequent burping and choking[1,4]. The goals in feeding an infant with the cleft palate are: maintaining nutrition in the first place and the second is to establish a feeding technique as close to normal as possible to facilitate normal oro-facial development. The feeding obturator is a prosthetic aid that restore the separation between the oral & nasal cavities until the defect can be surgically corrected .The concept of early treatment of cleft palate patients was pioneered by Mc Neil[7].The article presents a case report of a patient with cleft palate in whom feeding plate was delivered.

II. CASE REPORT

A 20 day old infant was brought to the Department of Prosthodontics, Govt. Dental College and Hospital, Srinagar with the chief complaint of difficulty in feeding. On examination, it was found that child was born with unilateral cleft palate on right side (Fig 1). After complete examination of the patient it was decided to fabricate feeding plate for the patient, so that it reduce feeding problem.Preliminary impression was done with Impression Compound (Fig. 2). The impression material was held with two fingers and the compound was adapted to maxilla. The infant was held upright by the mother to prevent aspiration of any extra material. Molding of the impression material was done with index finger and the infant's suckling motion and crying during the whole procedure also aided in molding of the impression. The impression was removed from the mouth and evaluated to make sure that it extended to the defect and the vestibule. This impression was used to make a special tray using self-cure acrylic resin that was finished and polished to prevent any injuries (Fig. 3). The tray was coated with a tray adhesive and the final impression was made with light body addition silicone impression material to record the precise location of the supporting structures and defect (Fig. 4). The

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impression was made with infant's face held towards the floor, in order to prevent aspiration in the event of vomiting and asphyxiation due to airway obstruction. Impression was mounted and the primary cast was poured on which blocking of all undercuts was done. Fabrication of feeding appliance was done on the cast using auto-polymerizing resin. To avoid and prevent swallowing and for easy retrieval of appliance, floss was attached to the feeding appliance by preparing small holes using round burs at the labial flange which after placement of the appliance in the oral cavity of the new born were tied around ears

The patient's mother was asked to bottle fed the baby and it was noted that there was no nasal regurgitation and the child was successfully able to be feed with feeding obturator in place without any discomfort (Figure 5). Instructions were given to parents. Instructions were given on how to insert, remove and clean the prosthesis.

A regular follow up of the patient was done after 24hours; 1 week and monthly follow up were scheduled. During the regular follow ups, neonate weight gain was evident.

III. DISCUSSION

A major concern in treating these patients is obtaining good impressions which pose a unique set of challenges including the size constraints imposed by infant's oral cavity, anatomical variations associated with the severity of cleft & a lack of the ability of the infant to cooperate & respond to commands. Modelling plastic impression compound was used for making the preliminary impression. It has the advantage that it can be removed as a whole from the oral cavitybefore it sets in the case of any emergency & its resistance to tearing[8]. Feeding obturator can be prepared with various materials like acrylic resin and vacuum formed polyethylene, ethylene vinyl acetate[9, 10]. Vacuum formed materials are light in weight, soft in nature with smoother surface, and do not require any retentive wire.But they are not economical and oral hygiene is also a concern because it is a plastic appliance which can cause irritation to the palate[10]. Autopolymerizing acrylic resin was chosen in this case as it is cost-effective and simple to fabricate, hygienic and serve the purpose[8]. This article just described a simple & effective method of fabrication of a feeding obturator in a cleft palate baby and this appliance promote the neo-natal weight gain thus preparing the child for the corrective surgery.

FIGURE LEGEND

Figure 1.Intra oral view of cleft palate

Figure 2.Impression made with high fusing impression compound.

Figure 3. Custom tray

Figure 4.Secondary impression made using light body additional silicone impression material

Figure 5. Prosthesis in situ

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