



Successful Management of Feeding Difficulties in Patient with Severe Bilateral Cleft Lip and Palate

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ABSTRACT

Cleft lip and palate is one of the most common developmental disorder found in humans. A child born with cleft lip and palate has plethora of complex problems, such as feeding difficulties, middle ear diseases, dentofacial abnormalities, slow weight gain, and even failure to thrive. Feeding difficulties are the main cause of distress for both the child and mother, and may also lead to psychological maladjustment of child in later life. Various methods have been described to overcome feeding difficulties faced child and mother. This case report describes a case of severe bilateral cleft lip and palate (Veau's class IV cleft) successfully managed by fabrication of simple feeding plate and counseling of mother.

Keywords: Cleft lip and palate, Feeding difficulties, Veau's class IV cleft, Feeding plate.

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INTRODUCTION

A child born with cleft lip/palate has multiple and complex problems, including early feeding and nutritional concerns, middle ear disease, hearing deficiencies, deviations in speech and resonance, dentofacial and orthodontic abnormalities, and psychosocial adjustment problems.¹ It has been widely stressed that the care of these children should be comprehensive, coordinated, culturally sensitive, specific to the needs of the individual and readily accessible.^{1,2}

Young et al³ in their survey on parents of children with cleft lip and palate found that feeding issues were a topic that 95% of parents deemed 'critical'. Feeding problems and their potential complications have been widely documented in patients of cleft lip and palate.

Studies have shown slow weight gain in infants with cleft palate which is attributed to significantly to feeding difficulties.⁴⁻⁶ Furthermore, some authors have described association between feeding difficulties and death/failure to thrive.^{7,8}

Thus, one of the critical tasks for multidisciplinary team is to ensure that successful feeding is established as soon as possible after birth, taking into account the mother's preference and any other problems that the baby may have and that feed times are a relaxed and happy occasion for both the mother and baby.

Some of the methods to overcome feeding difficulties include use of feeding plates and presurgical orthopedic correction plates and the use of specialized feeding bottles, such as the Haberman Feeder and Mead Johnson bottle. The use of these methods has a variable acceptance in different regional population.

This paper describes a case of severe bilateral cleft lip and palate (Veau's class IV cleft) wherein the severe feeding difficulties were successfully managed with simple feeding plate and parent education and training.

CASE REPORT

A seven days old male infant was brought to the Department of Pediatric and Preventive Dentistry, Government Dental College and Hospital, Mumbai, on 27 November 2012 by his parents. Child was referred from JJ Hospital as he was unable to take oral feed. Baby was known case of cleft lip and cleft palate. Feeding was through Ryle's tube since birth (Fig. 1). Birth weight of baby was 2600 gm. No any other relevant medical history was noted.

On examination, child was having bilateral complete cleft of soft-hard palate, alveolus and lip, i.e. Veau's class IV cleft (Fig. 2).

As there was a communication between the oral and nasal cavities, a feeding plate was planned for baby which would act as a barrier as well as a pseudo palate to prevent nasal regurgitation and to aid in feeding.

Parents were explained about the procedure in detail prior to commencement of treatment. Impression of upper gum pad and cleft area made using medium fusing impression compound (Fig. 3). Working model was made with dental stone. Separating medium applied over model to facilitate

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retrieval of set feeding plate. Feeding plate was fabricated using cold cure acrylic resin (Fig. 4). Nineteen gauge stainless steel wire inserted in the plate which would help in easy retrieval of the plate from mouth and also to aid in stabilization of the plate along with adhesive tape (Micropore).

After proper finishing and polishing of feeding plate, it was placed in the oral cavity to assess its extensions and also to check for gag reflex. After required adjustments, the parents were demonstrated for plate insertion, removal and cleaning. Parents were also instructed about proper positioning of baby and bottle while feeding. The feeding plate was then delivered, and infant was recalled after 1 week (Fig. 5).

On recall visit, the baby was able to take oral feed comfortably and there were no other complaints of discomfort (Fig. 6). The baby's weight on recall visit was found to be 2800 gm. And, the parents were happy about the gain in weight.

DISCUSSION

The primary goal in feeding an infant with a cleft lip and cleft palate is maintenance of adequate nutrition, while at the same time, finding a technique as close to normal breast feeding as possible. Further, a mother's interest in breast feeding should never be summarily dismissed, because it is

in the infants best interest to find a feeding technique that also maximizes oral stimulation, since it is likely that these movements facilitate oral motor development.^{9,10}

Feeding is difficult for babies with cleft lip and palate because of the altered anatomy within the mouth. In order for feeding to be successful, the baby has to do several things. Firstly, the baby has to be able to lift the soft palate to close off the nasal airway from the mouth; then, the tongue has to move forward over the lower gum and cup the nipple or teat. Thirdly, the baby must make a seal around the nipple or teat with the lips. Whether the baby is breast or bottle-fed, effective feeding depends on tongue movement. In a breastfed baby, the tongue ripples along the base of the breast helping to express the milk out of the nipple. In bottle feeding, the tongue compresses the teat against the roof of the mouth. The obvious difficulty these babies have is that they cannot create adequate negative intraoral pressure to be able to express the milk from the breast or bottle. This pressure, coupled with the rhythmic jaw and tongue movements, is what helps to hold the nipple in place. Added to this is the stabilizing effect of the lips. Without the seal, the lips should make around the teat, the baby finds it harder to keep the nipple in the correct position.¹¹



Fig. 1: Preoperative extraoral view



Fig. 2: Preoperative intraoral view



Fig. 3: Impression of upper gum pad cleft region



Fig. 4: Feeding plate



Fig. 5: Feeding plate stabilized in oral cavity using Micropore



Fig. 6: Child taking oral feed

Thus, according to the ability of infants to carry out the muscular movements necessary for feeding, the feeding technique that best suits the requirements of infant and mothers preferences should be encouraged.

In the present case, patient's mother and family insisted upon breast feeding the infants (due to traditional and cultural reasons). Taking this into consideration, a feeding plate was fabricated to aid the infant in breast feeding. The mother was counseled for the initial difficulties that an infant or she may face.

Several authors^{10,11} promote the use of bottle feeding with the help of special bottles in patients with bilateral severe cleft lip and palate due to patients inability to make mechanical movements and generate negative pressure. However, despite the presence of such a disability in our case, the simple feeding plate helped to overcome this limitation. This is also validate by the fact that, in mere 1 week, patient gained 200 gm of weight.

This weight gain also has long-term significance, since early surgical repair of cleft defect may get delayed if milestone in weight gain is delayed. This delayed early surgical repair may jeopardize the long-term management. Therefore, it is very essential that feeding difficulties are managed optimally taking into account the infant's ability and parent preferences.

CONCLUSION

Provision of adequate nutrition is critical factor in proper growth and development of a child. In the patient with cleft lip and palate, feeding difficulties are universal. The early assessment and intervention for feeding difficulties is important aspect of multidisciplinary team approach in management as it may have impact on long-term outcome. Although several methods are available to manage these feeding difficulties, simple feeding plate that is easy to

fabricate and also promotes the natural breastfeeding can also be used to successfully manage even the severe form of bilateral cleft lip and palate as demonstrated in this case.

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