

CASE REPORT

A FEEDING APPLIANCE FOR A NEWBORN BABY WITH CLEFT LIP AND PALATE

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ABSTRACT:

Cleft lip and cleft palate is one of the common developmental disorders of head and neck region with increasing incidences every year. Feeding problems for infants and children are one of the common complaints of patients with cleft lip and palate. Patients with cleft lip and palate can be syndromic or non-syndromic. Common difficulties arising due to this condition is inability to form complete seal in the oral cavity leading to nasal regurgitation and choking. The present case report shows a single visit prosthodontic management of 4-day-old neonate born with cleft lip and palate by fabricating feeding obturator.

Keywords: Cleft lip and palate, feeding appliance, obturator.

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INTRODUCTION

One of the most common developmental defects arising in the head and neck region is the Cleft lip and palate. Manifestation of these defects clinically results in feeding problems, lack of facial growth, problem in dentition, difficulty in speech and mastication and the most important one, the psychological problems faced by the patient. Due to incomplete seal being formed, there is lack of proper pressure necessary for the feeding process or suckling.¹

It becomes difficult for the child to squeeze the milk out of mother's feeding organ as the infant is not able to create suckling pressure between his/her tongue and the palate.²

Treatment or repairing process of cleft palate is started most commonly at the age of one and half year to two years because many surgeons and embryologist believe that by this time, most of the growth of the palatal region has completed.

Treatment options have their own drawbacks. It imposes the patients with the risk of development of other abnormalities, mainly related to articulation, which can further create verbal problems which would further require years of treatment for correction. Prosthetic treatment offers more advantages over early surgical treatment if surgeons are not in favor of early surgery.³

Therefore, such infant patients require construction of feeding appliances which will provide

symptomatic relief by creating perfect seal inside the oral cavity and help the patient in getting fed.²⁻⁴

CASE REPORT

A 4-day-old male neonate with unilateral cleft lip and palate was referred to the Department of Prosthodontics, HP Government Dental College and Hospital, Shimla with a chief complaint of difficulty in feeding. On examination, it was found that the child was born with unilateral cleft lip and palate on left side Fig 1(a,b). The medical history of the child and parents was non-contributing. After discussion with the child's parents, it was found that the mother had difficulty in breast feeding the newborn; hence, a feeding appliance was planned for feeding the newborn.



Figure 1(a): Child with unilateral cleft lip



Figure 1(b): Child with cleft palate



Figure 4: Fabrication of the feeding appliance on the cast using autopolymerizing acrylics resin



Figure 2: Prefabricated perforated impression tray



Figure 5: Floss attached to the feeding appliance



Figure 3: polyvinyl siloxane putty impression material



Figure 6: Placement of feeding appliance

Selection and evaluation of a prefabricated perforated impression tray was done (Fig 2) and the tray was then adjusted in accordance with defect of the patient. Mixing of the polyvinyl siloxane putty impression material was done and the impression tray with impression material was inserted in patient's mouth to take impression (Fig 3).

Impression was mounted and primary cast was made on which blocking of all the undercuts was done (Fig 4). Fabrication of the feeding appliance was done on the cast using autopolymerizing acrylics resin (Fig 4). To avoid and prevent swallowing and easy retrieval of appliance, floss was attached to the feeding appliance (Fig 5). Finally, placement of feeding appliance was done in the oral cavity of the newborn (Fig 6).

DISCUSSION

One of the most common developmental problems encountered these days is the cleft lip and cleft palate. It is considered as a serious problem due to difficulties being faced in the appropriate treatment planning of it.³ The most common complaint of parents of infants affected with this condition is the inability to feed the infant due to improper suckling.⁴ Proper coordination of the intraoral muscles is required to complete the suckling process. This coordination is generally lacking in cleft lip and palate patients.⁵

In cleft lip and palate patients, breast feeding is one of the difficult and challenging tasks. The child is unable to create suction due to opening in the palate. Problems faced by the infant includes difficulty to locate a place on the palate to press against the breast

and feed with milk. Severity of the disease varies and with this varies the quality and quantity of breast feeding.

Mother requires adopting certain modifications to proper feed the child. Modified football hold is one such modification of position (holding the child at an angle of 45°), which reduces nasal regurgitation.⁶ History quotes numerous appliances being tried for temporary closing of cleft lip and palate cases. Many of these have been successful in providing symptomatic relief to infants like squeeze bottles, modified nipple bottles with large openings etc.⁷ These devices when inserted over the palate of the infant completes the seal of the oral cavity creating pressure gradient thereby enabling the feeding of the infant and reducing nasal regurgitation and shortening the time required for feeding.⁸

CONCLUSION

Cleft lip and palate results in improper nourishment due to difficulty in feeding which affects the health status of the patient acts as a psychological block in the milestones of normal development.

One of the early treatment options in case of delayed surgery is a feeding appliance. Such feeding appliances cover the defect and bridge the obstacle which occurs between a malnourished and an adequately nourished cleft palate patients. At the same time, such obturators are at the risk of being swallowed regardless of the material from which they are made of.

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