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RESEARCH ARTICLE

FEEDING PLATE: A BOON TO CLEFT PALATE CHILD AND MOTHER TOO - CASE REPORT

Manoranjan Mahakur, Silpa Tarenia, Louis Solaman Simon, Anusuya Mishra, Deepika U. and Chemmalar D.T

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Abstract

Now a day's many children are affected with cleft lip and palate due to multifactorial etiology. Among all the problems of cleft lip and palate, the most important is feeding and nutrition to the child. If a child will not be able to take mother milk after birth then definitely it will hamper the immunity and development of the baby and also it will greatly depress the psychology of mother and other family members. The aim of this article is to present a case of cleft lip and palate baby of 5 days old whose mother chief complaint was that "I could not feed my child", and how he was rehabilitated with a feeding plate and made easy for the mother to feed her milk.

Introduction:-

According to the global epidemiological survey the most common congenital craniofacial anomaly is Cleft lip and palate (CLP) with a multifactorial origin caused by abnormal facial development during gestation[1]. The incidence of CLP is 0.28 to 3.74 per 1000 live birth globally and 3500 per year in India[2]. The function of the oral and nasal cavity will be highly affected due to cleft of the lip and palate[3].So the baby will have difficulty in feeding, leads to regurgitation, aspiration, which subsequently will lead to low weight, compromised immunity, less development and growth, chronic respiratory tract infection and psychological depression to mother and family members.

Feeding plate is an artificially fabricated device that occludes the cleft and restores the separation between oral and nasal cavities by creating a rigid platform towards which the baby can press the nipple and suck the milk[4,5]. According to GPT, feeding prosthesis is an ancillary prosthesis constructed for newborns with cleft palates to permit normal sucking and feeding

The feeding plate will help in not only feeding but also reduces nasal regurgitation reduces the incidence of choking and prevents the tongue from entering the defect and interfering with the spontaneous growth of palatal shelves towards the midline again the speech development and jaw function improved with a reduction in the incidence of otitis media and nasopharyngeal infection[4]. This article will describe the procedure and precaution of fabrication a feeding plate

Case Report

Case 1

A mother reported to the Department of Pedodontics and Preventive Dentistry, SCB Dental College and Hospital, Cuttack with her 5 days old male infant having cleft lip and palate with a chief complaint of "I couldn't feed my milk to my child" (figure-1). As cleft was there baby wouldn't be able to suck breast milk. There was no family history of craniofacial clefts. The baby was the first child and pregnancy of the mother was uneventful. They

Corresponding Author:- Manoranjan Mahakur

consulted plastic surgeon before but they planned for surgery after 10 weeks so mother was too depressed how she will feed till. There was no history of previous treatment or surgery for the defect. Intraoral examination revealed a cleft in the soft palate and uvula (Figure-2)

First, the baby was examined for any other serious medical condition then pre-operative photographs were taken with the parents' consent Preliminary impression of the palate was made with an impression compound (Figure 3). Before the impression procedure a moist gauge pack was kept in the cleft, to prevent aspiration of materials than with the help of a finger, impression material was carried into the baby's mouth and gently pressed against the hard palate and into the buccal and labial vestibules, while the baby was held in prone position to prevent aspiration in the event of vomiting and asphyxiation due to airway obstruction, the baby should cry during the procedure and it's a positive sign for patent air way. Model was prepared by pouring the impression in type III dental stone (Figure 4). The cleft defect in the primary model was blocked out by modellingwax. A secondary custom made tray was fabricated with cold cure acrylic for secondary impression (figure 5). The secondary tray was trimmed and polished for a secondary impression with putty materials. With the same procedure and precaution secondary impression was taken and cast was made with die stone (figure 6). A feeding plate was fabricated using a thermoplastic plate in the laboratory (Figure 7). All the borders of the feeding plate were rounded and polished in order to avoid trauma and a piece of thread was tied to the plate for security. Then the Feeding plate was inserted into the patient's mouth and it was checked for fit, comfort, and retention (Figure 8). Immediately mother was asked to feed the child in the feeding room of department and surprisingly the child stared sucking milk from mother breast, and with this mother, the face became so happy and enlightened as the first time she fed her baby. After that Parents were given Instruction regarding how to use the feeding plate during feeding time, remove it afterward, and thoroughly clean the baby's oral cavity and feeding plate with a soft cloth soaked in warm water. The patient was recalled 24 hours later for any discomfort or adjustment, and then regular follow up was instructed.

Case-2

A baby of age 3month presented to our OPD with chief complain of milk coming out through nose while feeding. On examination, child was found to have cleft lip and palate, he was being feeded with spoon and nasal tube for 3 months so he lost the sucking reflex also. He was suffering from recurrent respiratory tract infections and pneumonia. So we planned to make an obturator so that to prevent regurgitation and aspiration. With the same precaution and protocol, we took the impression with putty material in a custom made tray and after making cast we send it to the lab for obturator. The next day we delivered the obturator after through polishing and checking for any trauma or discomfort. Parents were given Instruction regarding how to use the feeding plate during feeding time, remove it afterward, and thoroughly clean the baby's oral cavity and feeding plate with a soft cloth soaked in warm water. The patient was recalled 24 hours later for any discomfort or adjustment, and then regular follow up was instructed. (Figure 9-12)

Discussion:-

Management of cleft lip and palate baby needs a multidisciplinary approach. A general physician or paediatrician or gynaecologists are the first person to diagnose that the child is having cleft lip and palate and it will affect the baby's feeding, so they should inform the mother and parents about the alternative treatment of feeding plate for easy feeding of the child till surgery and he should refer them to a pedodontics. Pedodontists being the master of the team he/she should consult the prosthodontics, oral surgeon and plastic surgeon before the treatment planning again the role a speech therapist is unavoidable. However, prompt intervention by fabrication of the feeding plate can eliminate the immediate problems i.e. proper nourishment and prevention of further infection due to aspiration. Feeding appliance restores palatal cleft and aid in creating sufficient negative pressure which allows adequate sucking of milk. It helps the child to compress the nipple easily because it provides a contact point and helps the infant to express milk. So it is important to examine before feeding plate that child having the suckling reflex or not. Sucking reflex is an inborn habit but due to cleft palate baby wouldn't be able to suck and if it will continue for more than 1-2 month the baby will lost the sucking reflex and after that it will not develop .In our second case, the child reported after 3 month so he already lost the reflex of sucking as mother was feeding him with spoon and nasal tube for so long time. So we made an obturator for that child for the prevention of aspiration of milk to nasaland respiratory tract as that child was having recurrent respiratory tract infection and pneumonia[8-11] and his 2nd stage operation was delayed due to unfavourable health so the obturator will help till the surgical phase

Figure 1:-

Figure 2:-

Figure 3:-

Figure 4:-

Figure 5:-

Impression

Figure 6:-

Figure 7:-

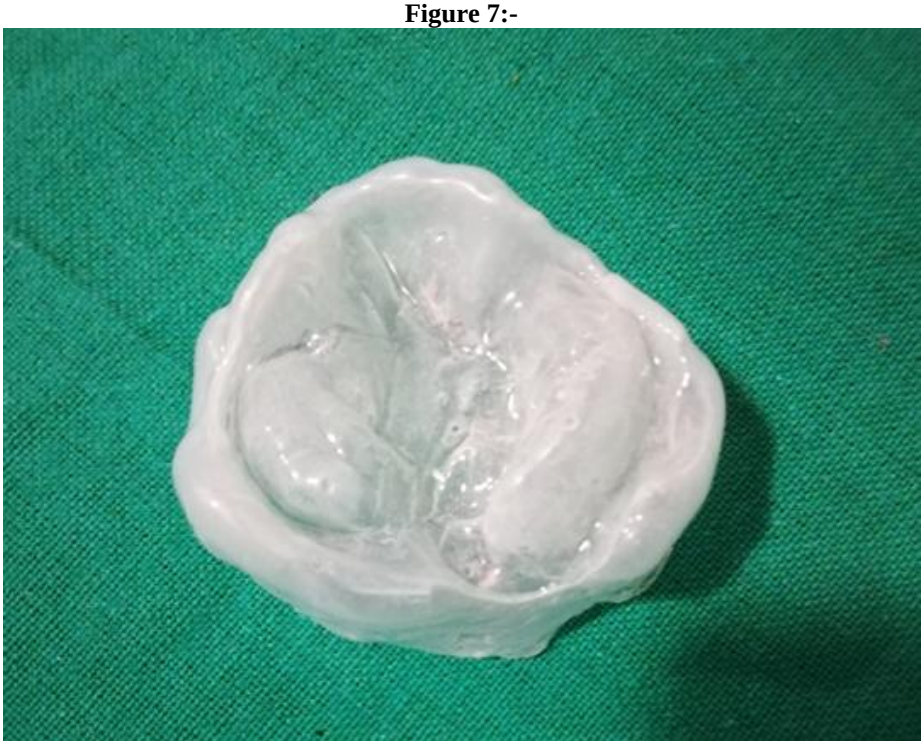

Figure 8:-

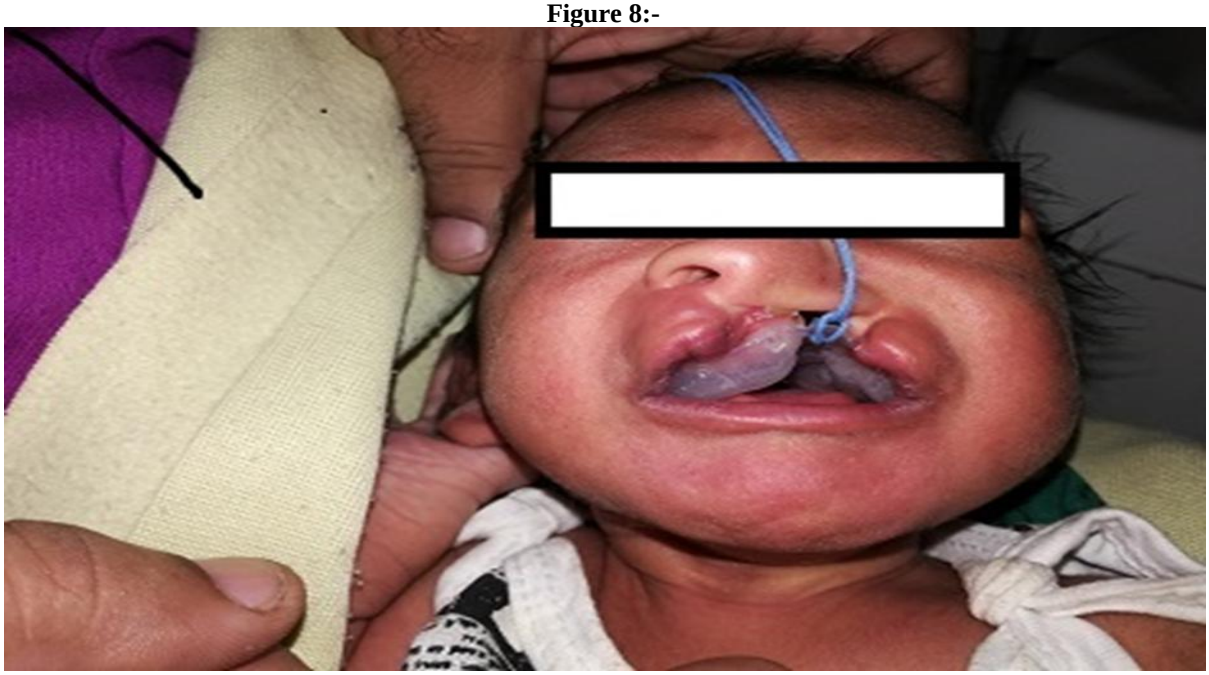

Fig-9:- Cleft Palate

Fig-10:- Impression Taken.

Fig-11:- Cast.

Fig-12:- Thermoplstic Obturator.

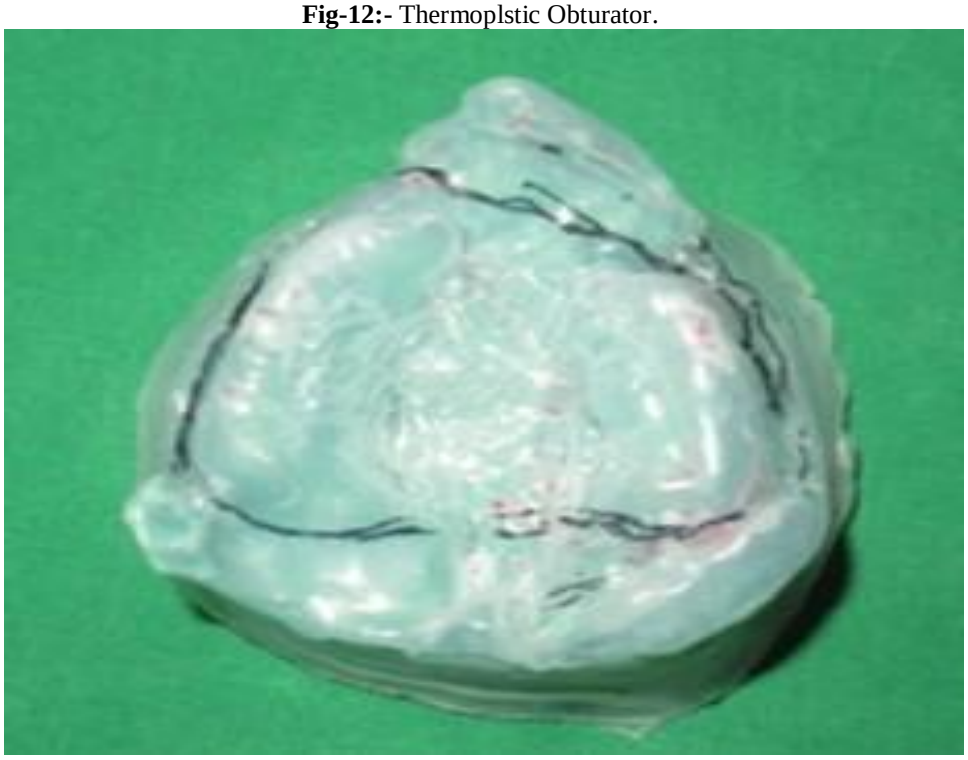

Fig-13:- Obturator In Situ.

Conclusion:-

Cleft lip and palate are no more stigma to the society, nowadays with the advancement of medical science parents having a cleft child are preparing them self how to cope with child and rehabilitate him/her. Among all the treatment and rehabilitation modalities feeding plate is unique but it should be done immediate before loosing of sucking reflex. The feeding plates helps the infant in nursing, stimulate oral-facial development, helps develop the palatal shelves, prevent the 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 psychological help to the parents.

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