Prosthetic rehabilitation of the cleft palate patient with feeding plate: A Case report

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Abstract
Cleft lip and palate is a most commonly observed congenital defect affecting orofacial region. One of the most common problems with such patients is interference in feeding. The treatment of the cleft palate patient is aimed to restore aesthetics, phonetics and functions, which can be achieved with the help of, fixed, removable or implant prostheses. This article describes a case report of prosthetic rehabilitation with feeding plate in 10 year old cleft palate patient. The patient was having cleft in the anterior maxillary palatal region, for which the step-wise impression procedures was followed to prepare the feeding plate. After follow-up, the patient showed significant improvement in the feeding problems, decreased the nasal regurgitation and improvement in speech was also noted. Results from the present case report states that we can reduce feeding problems, difficulties in speech and help in the development of the maxillofacial region of the patient. This not only decreases the physical and mental trauma in future of patient and also improves the quality of life.

Keywords: Cleft palate, Feeding plate, Prosthetic rehabilitation

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Introduction
Clefts involving lips and palate are the most commonly seen congenital anomalies involving the maxillofacial region [1]. The etiology for clefts are multifactorial involving genetic as well as environmental factors. Any disturbances in the fusion of the separate areas of the face can result in formation of the cleft [2]. The patient of such defect have major problems with difficulties in feeding, because they cannot produce negative pressure in the oral cavity and thus will not able to move bolus of food backward to the pharynx, also these patients have nasal regurgitation, difficulties in speech, aesthetic problems and may also affect physical and mental growth of the patient [1,3,4]. To overcome such problems, feeding plates are advised to such patients, which obturates the cleft portion and helps to restore the separation between nasal and oral cavities [1,2]. The present article presents a case report of prosthetic rehabilitation of the 10 year old cleft palate patient with feeding plate.

Case report
A 10 year old male patient was referred to the department with presence of cleft palate in the anterior maxillary region.

There is only one tooth was present in the maxillary arch, at the time of presentation, patient was having difficulty in feeding, nasal regurgitation and speech difficulties. There was also presence of underdeveloped maxilla (Figure-1,2 and 3). First, preliminary impression was taken and cast was
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Prepared, on which marking were drawn to make custom made tray, which was made from the self cure acrylic (Figure-4 and 5).

Figure-7: Impression of the defect

Figure-8: Impression of the defect

Figure-9: Temporary impression

Figure-10: Poured cast

The tray was checked for extensions by placing intraorally (Figure-6). Then impression of the defect of the palate was made with green stick moldable material (Figure-7 and 8). After this, temporary impression was made (Figure-9) and cast was poured (Figure-10). This cast was observed carefully for the presence of any undercuts.

Figure-11 and 12: Final impressions

Figure-12: Final impressions

Then final impression was made (Figure-11 and 12) and the final impression cast was prepared (Figure-13). After this, the feeding plate was fabricated with the help of acrylic resin (Figure-14 and 15) and finally the proper fitting of the feeding plate was checked in the oral cavity (Figure-16).

Figure-13: Final impression cast.

Post-operatively patient had reduced the feeding difficulties and nasal regurgitation and a thorough follow up of the patient, revealed improvement of speech,
improvement in speech, and the patient felt confident due to improvement in aesthetics.

Discussion
The main purpose of the feeding plates is to facilitate the function of the feeding by achieving the separation between oral and nasal cavities as it produces a firm platform helping to produce the suckling reflex and give nutrition to the patient [5, 6]. Feeding plates also reduce the nasal regurgitation, reduces the length of time required for feeding, decreases the incidence of choking, helps to correct speech problems, assist in proper suckling reflex minimizes the oral stimulation and facilitates the development of oral motor system. The feeding plate places the tongue in correct position and prevents it from entering the defect; and thus prevents the tongue from interfering with the spontaneous growth of palatal shelves in the direction of midline. Ultimately the feeding plates decreases the severity of the skeletal and dental deviations and thus provides a positive impact on the patient as well as on their parents, as it decreases the parents frustration due to the feeding problems [7]. In the present case, the patient was having cleft in the anterior maxillary palatal region, for which the step-wise impression procedures was followed to prepare the feeding plate. After follow-up, the patient showed significant improvement in the feeding problems, decreased the nasal regurgitation and improvement in speech was also noted.

Conclusion
Adequate knowledge of the appliances and impression procedures is necessary for the management of patients with clefts involving lips and palate. It is demonstrated in the present case report that with the help of feeding plates we can reduce feeding problems, difficulties in speech and help in the development of the maxillofacial region of the patient. This decreases the physical and mental trauma in future of patient and ultimately improves the quality of life.

References