Prosthetic Management of Cleft lip and Palate Patient with Oronasal Communication: A Case Report

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Introduction

Oral-facial clefts are birth defects in which the tissues of the mouth or lip don’t form properly during fetal development. Children with clefts often don’t have enough tissue in their mouths, and the tissue they do have isn’t fused together properly to form the roof of their mouths.

In the United States, clefts occur in 1 in 700 to 1,000 births, making it the one of the most common major birth defects. According to the European Commission on Science Research and Development for the European Community, the incidence of these malformations is one case out of every 600 individuals. Clefts occur more often in children of Asian, Latino, or Native American descent.

A cleft lip appears as a narrow opening or gap in the skin of the upper lip that extends all the way down to the base of the nose. A cleft palate is an opening between the roof of the mouth and the nasal cavity. Some children have clefts that extend through both the front and rear part of the palates, while others have only partial Clefting.

These malformations are also typically varied in terms of severity that depends mainly on the degree of structural involvement.

The classification of these disorders is based on the incisor foramen as reference. Thus, Preform Clefts are classified anterior to the incisor foramen and affect the premaxilla (Group I); post foramen Clefts are classified posterior to the foramen (Group II); and transforamen clefts extend from the premaxilla to the soft palate (Group III). Generally, there are three different kinds of clefts:

- Cleft lip without a cleft palate
- Cleft palate without a cleft lip
- Cleft lip and cleft palate together

In addition, clefts can occur on one side of the mouth (unilateral clefting) or on both sides of the mouth (bilateral clefting). More boys than girls have a cleft lip, while more girls have a cleft palate without a cleft lip (2:1 ratio).

The good news is that both cleft lip and cleft palate are treatable birth defects. It is essential to integrate not only the different specialized fields in dental practice but also medicine, psychol- ogy, phoniatrics, etc (5).

As part of the management team, the dentist, or better still the different specialists, are responsible for supervision of all the dental aspects of the patient in course of development.

Clinical Case

A 31-year-old male came to our office seeking an aesthetic solution for his anterior segment. He has unilateral clefts on the left side of his lip and the anterior part of his palate (Group I). About 15 years ago he underwent one surgical operation to close the soft tissues of the lip.

Extraoral examination showed upper lip and nose asymmetry secondary to the operation undergone before (Fig 1).

Intraoral examination revealed evident dental malpositioning and malocclusion. Severe maxillary mandibular discrepancy especially in the anterior segment (Severe Class II malocclusion with increased overbite-overjet relationship) (Fig 2).

As well as different dental ages affecting teeth # 11, 12, 21, 22, and 25, poor oral hygiene with inadequate fitness and increase the frictional lock (Fig 6). The Primary crowns were cemented in the patient’s mouth (Fig 7), and then the super structure was tried in the patient mouth (Fig 9) to achieve parallelism with other abutment teeth that is a crucial aspect when working with telescopc crowns.

The definitive treatment started and consisted of the preparation of the abutment teeth (115, 12, 11, 21, 22, and 25) with con-...

Discussion

This case of Cleft lip and palate allows us to review two important aspects of this pathology: 1. The causes, and 2. The existing therapeutic possibilities, particularly when prior corrective therapeutic measures have not been done at the correct time.

The causes of such malformations are highly diverse, though, 5 major groups can be considered:

- **Genetic Factors:** that can be classified as (Syndromic and Non-Syndromal Oral Clefts) according to the way factors are manifested clinically. Syndromic Clefts such as that happen in association with other Syndromes as Ectodermal Dysplasia (4), and Van der Woude Syndrome (5). Non-Syndromic Clefts are not related to syndromes rather than it happens due to gene alteration and causes isolated type of cleft lip and palate. Such as the sporadic forms of cleft lip and palate in areas of Venezuela.
- **Environmental Factors:** such as maternal smoking habits (6), tobacco smoking (7), and parental age (8). Folic acid (9), Zinc and Vitamin B deficiency in pregnant women (9) are other related causes of such malformations.
- **Multifactor causes that include interaction between...**
The development of oral clefts originates from a number of factors, including genetic and environmental factors. Genetic factors alone account for about 30% of cases of oral clefts, and environmental factors account for the remaining 70%. Environmental factors that may contribute to the development of oral clefts include: smoking during pregnancy, alcohol consumption during pregnancy, and certain medications. Environmental factors that contribute to oral clefts are more common in children who are born prematurely, who have low birth weight, or who are born to mothers with low socioeconomic status. Genetic factors are usually transmitted through autosomal dominant inheritance. However, penetration is incomplete, and only about 50% of individuals with a family history of oral clefts will develop the condition.

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Fig. 1: Final Prosthesis in the mouth

A plastic surgery where done to seal the oronasal fistula and to reshape the nostril. But, orthognathic surgery to correct the jaw relation was refused by the patient.

The double crown concept and the intrinsic design facilitate both teeth and prosthesis stability in the long term and ensure favorable masticatory force transmission. However, in any case, and regardless of the rehabilitation approach adopted, prosthodontic maintenance is essential component of long-term patient care, and serves to maintain adequate chewing and speech function, and facial aesthetics.

References