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BILATERAL CLEFT LIP WITH SEVERE PROJECTION OF THE PREMAXILLA AND ABSENCE OF COLUMELLA: CASE REPORT WITH A MODIFICATION OF THE MULLIKEN TECHNIQUE

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INTRODUCTION

Cleft lip and palate are the most common congenital facial malformations. According to the WHO, the current global prevalence for cleft lip is 0.3 and for cleft lip and palate, 0.45-1 per 1,000 live births. (1)(2) In Brazil, according to DATASUS, the prevalence of cleft lip and palate is 1 per 1,858 live births. (3)

Approximately 70% of cleft palate cases occur in isolation, while 30% are syndromic clefts. Children with cleft lip and palate can suffer serious impairments to their speech, hearing, nutrition and psychosocial development.(2)(4)

Surgical correction of complete bilateral cleft lip and palate is challenging, with satisfactory results only in the hands of more experienced surgeons. (5) The operative techniques frequently used are Millard, Mulliken, Trott, Cutting and Dr. Percy Rossel's double advancement and lateral rotation technique. (6)(7)(8)

We report the case of a pediatric patient with complete bilateral cleft lip and palate, with a large maxillary and nasal deficiency, no early conservative treatment and advanced age, leading to a complex approach.

CASE REPORT

Male patient, 1 year and 8 months old, evaluated at the CTMC -

CRANIOFACIAL MALFORMATIONS TREATMENT CENTER OF THE HOSPITAL

GUILHERME ÁLVARO Hospital, Santos, São Paulo, Brazil, under the supervision of the Osvaldo Saldanha Plastic Surgery Service.

Diagnosed with bilateral transforamen incisor cleft according to the classification of Spina et al modified by Silva filho et al. Presenting marked protrusion of the premaxilla and nasal deformity with absence of columella, WITHOUT FUNCTIONAL INJURY.

Although there were indications for neonatal orthopedic treatment, there had been no previous intervention since birth.

The plastic surgery team's proposal was to correct the cleft lip first, based on a modification of Mulliken's surgical technique, adapted to the complexity of the case.

Figure 1. Preoperative photographsPreoperative appointment

1. Marking the midpoint on the distal lip filter (A) and the lateral points, 2mm from it, which will originate the apex of the cupid's bow (B1, B2).
2. Parallel lines are drawn from points B1 and B2 to the base of the columella (C1, C2), which will determine the upper width of the lip filter over the pro-lip flap.
3. Points on the lateral lip flaps are marked in pairs, with 2mm between them, where the rectified lip contour line becomes a curved line. Two at the level of the white line (D1, D1' on the right and D2, D2' on the left) and two at the transition between dry and wet mucosa (E1, E1' on the right and E2, E2' on the left). The union of these points will later correspond to the central tubercle.
4. Marking of a perpendicular line from the piriform fossa to the vermilion of the mucocutaneous flap arranged more cranially on both sides (F1, F2), which will give rise to the floor of the nasal vestibule.

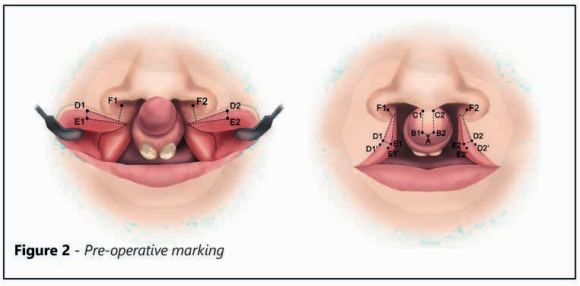

Figure 2 - *Pre-operative marking*

SURGICAL TECHNIQUE

DISSECTION

- **Prolabium**

After injecting 1% lidocaine with 1:200,000 epinephrine into the entire surgical area, we waited 7 minutes. A complete incision and detachment of the pro-labial flap was made, from the transition between dry and wet mucosa to the columellar base, at the level of the nasal spine. Initially, we opted to keep the entire dermogordous flap of the pro-lip, disregarding the marking of the original technique, due to the scarcity of tissue and the severe projection of the premaxilla.

- **Lateral segments**

A superficial incision was made from D1, on the white line, cranially to the nasal mucosa; and E1, to the same reference point, on the line of the moist mucosa. A de-epithelialized mucosal triangle was determined, exposing the medial limits of the orbicularis oris muscle. Repeat procedure contralaterally (D2 and E2).

Incision over F points, releasing the muscular and labial mucosal limits of the nasal mucosa. Deeper dissection, reaching the gingivolabial junction and extending laterally to the premolar region. Detachment at the gingivolabial junction in the subperiosteal plane cranially to the level of the infraorbital nerve.

This is followed by dissection in the subdermal and submucosal plane towards the labial commissures to release the orbicularis muscle bands. At the level of the F, delicate detachment with scissors is also carried out to release the alar cartilage lateroposteriorly.

Subperiosteal dissection of the premaxilla laterally until the nasal septum is identified to configure the medial flaps that will make up the medial nasal vestibule.

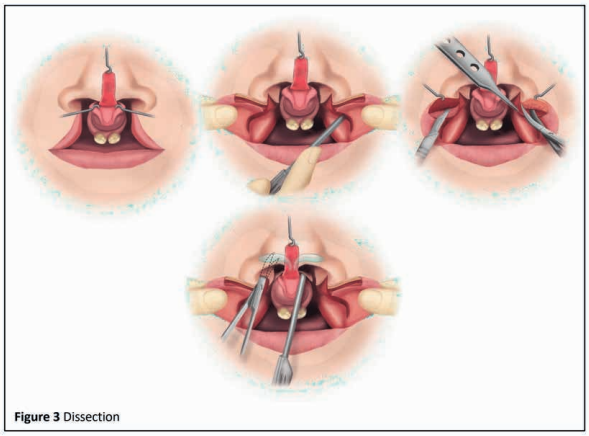
Figure 3 Dissection

- **Closure**

Suture between the lateral and medial flaps to structure the nasal vestibule with PDS 5.0.

Closure of the labial segment using planes of internal mucosa between the lateral flaps and the pro-labial flap with Vicryl 5.0. Followed by reconstruction of the orbicularis muscle band with Vicryl 5.0.

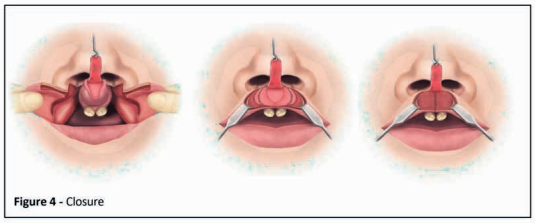

Figure 4 - Closure

- **Primary rhinoplasty**

After noticing the availability of soft tissue longitudinally on the pre-maxilla, the decision was made to continue dissecting the medial, domus and lateral regions of the alar cartilages in order to lengthen the columella.

Grober transdomal suture with Nylon 5.0 to rectify lateral portions of the alar cartilages, cranial interdomal suture and intercartilaginous suture in the medial portion with Nylon 5.0 for structural reinforcement. A subdermal stitch was made in the pre-maxillary flap in the periosteum of the nasal spine to make a nasolabial angle.

The procedure is completed with suturing of the lateral edges of the skin that will give rise to the filter and part of the central tubercle.

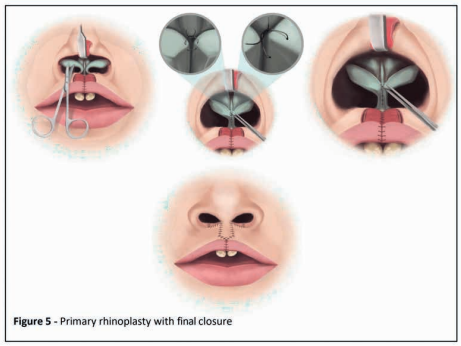

Figure 5 - Primary rhinoplasty with final closure

DISCUSSION

Congenital malformations can lead to physical and mental disabilities, sometimes lethal. Low quality of life and life expectancy, as well as high costs, are among some of the consequences of these abnormalities.(2) In countries

In underdeveloped countries, multiple factors can delay surgical treatment due to socioeconomic difficulties, especially high poverty rates and poor access to health systems. (2)(4)

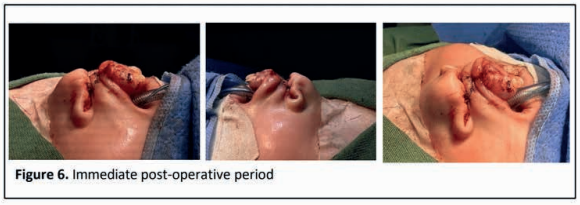

Figure 6. Immediate post-operative period

reproducible, but which requires the surgeon's full attention. Although the dissection of the lateral flaps allowed for greater tissue advancement, the fibers of the orbicularis muscle remained under tension due to the exacerbated projection of the premaxilla, but without ischemia or dehiscence.

As for the primary rhinoplasty, a more stable cartilaginous structure was achieved, the soft tissues of the columella were lengthened and the amplitude of the nostrils improved. Up to the date of this report, in the second postoperative month, the aesthetic results were satisfactory, despite the maintenance of the projection of the premaxilla. From a functional point of view, there was less tension between the flaps and a greater degree of mobility.

Although there are already recognized techniques for the treatment of bilateral cleft lip, surgical management remains a challenge due to the forms of presentation, degrees of deformity and structures involved. Adapting these techniques allows us to create variations that bring us closer to the ideal result.

Finally, we would like to emphasize the importance of reporting on these techniques, broadening the therapeutic arsenal to deal with the different presentations of this pathology.

Figure 7. Postoperative

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