

Primary cleft lip repair of unusual bilateral cleft

Abstract

Cleft lip and palate are congenital malformations which can affect lip, palate or both, caused by the failure of the *embryonic facial* prominences to fuse properly due to alterations in the regular development of primary and/or secondary palate. The aim of this study is to report the case of a patient who attended to a reference hospital for pediatric surgery, willing to be submitted to surgical treatment concerning bilateral cleft lip. Factors such as proper time for approach, knowledge, and surgical technique are essential to define the best specific treatment to each cleft lip case.

Keywords: facial morphology, lip form, surgical technique

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Introduction

Cleft lip and palate (CLP) are congenital facial deformities that can compromise lip, palate or both. These malformations are established early during intrauterine life, specifically during embryonic period and the beginning of fetal period until the 12th week of pregnancy. They are caused by the failure of the *embryonic facial* prominences to fuse properly due to alterations in the regular development of primary and/or secondary palate.¹ CLP affect approximately one in every 700 children born in a global context, with a wide variability concerning geography, and racial and ethnic factors, as well as, environmental exposure and socioeconomic status.² In Brazil, it is considered the most common craniofacial malformation, with an incidence of approximately one in every 650 newborns.³ The Primary treatment for CLP is surgical. Corrective surgery for cleft lip is recommended until the third month of life and cleft palate repair is recommended until 9 or 12 months of life, because chronology of procedures might vary among specialized centers. Proper nutrition is also fundamental so the child is able to be submitted to cleft corrective surgery; in other words, presenting a stable weight gain, no health alterations and in proper conditions to tolerate anesthetics.¹⁻⁴ Bilateral cleft lip (BCL) has a wide variability. The most common type is symmetrical complete cleft lip associated with an anterior maxillary protrusion. In such cases the surgeon must aim for esthetic and functional restoration so that patients' symmetry is the main goal.⁵

Case report

Patient RCS, male gender, attended to a reference hospital of pediatric surgery for evaluation by a Bucomaxillofacial surgeon. During clinical examination, the patient was diagnosed with unusual asymmetrical BCL, in which left side was deeper and right side was more superficial (Figure 1). Thus, primary cleft lip surgical repair was recommended. Cutaneous markings with brilliant green solution were made, in order to maintain symmetry and lip shape after

surgery. Incisions were made along with skin, muscle and mucosa dissection, also eliminating excess tissue (Figure 2). Incisions were well approximated with absorbable suture at mucosa-muscle level and at cutaneous level, so that final cutaneous scar remained a straight line. A releasing incision was carried following lip mucosa in order to reduce tension over the scar and, consequently, its retraction (Figure 3). Twelve months after surgery, the patient presented good general health, no functional complaints, and fair esthetics (Figure 4). At the moment, the patient is in the planning stage for rhinoplasty.



Figure 1 Preoperative clinical image.

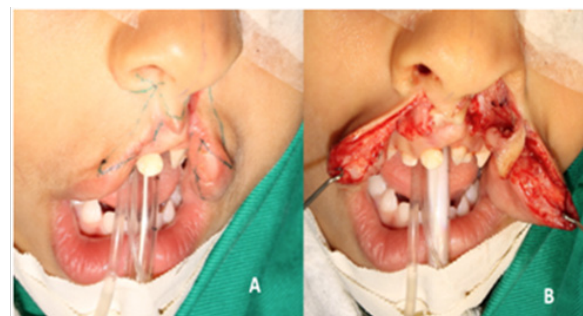


Figure 2 (A) Skin markings performed with bright green; (B) Incisions and dissection of soft tissues for rotation and advancement.

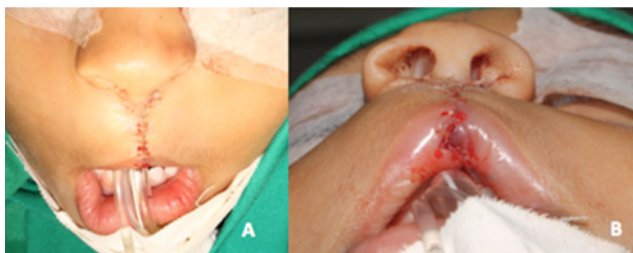


Figure 3 (A) Frontal view of the suture; (B) "Z" incision to reduce scar retraction.



Figure 4 Final clinical appearance after 12 months.

Discussion

Approaches concerning CLP presented a significant increase over the last century, through various cases reports publications composed mostly by surgeons' experiences, retrospective evaluation and a series of cases. Although there are still few studies with strict criteria, it is still possible to use this experience in order to make some important decisions concerning patient's treatments.⁶ The ideal purpose of surgical treatment is to restore functions such as breathing, phonation, mastication and esthetics, as well as, preserving normal growth potential of the affected area.⁷ In addition, it is necessary to promote a proper psychosocial development of children,⁶ contributing for their social inclusion. There are several specialists involved throughout the treatment since childhood until adolescence, such as Bucomaxillofacial surgeons, orthodontists, pediatric dentists, prosthetists, otolaryngologist, plastic surgeons, social therapists, psychologists, audiologists, geneticists and nursing team.⁶⁻⁸ Several classifications were proposed during the last century, such as Davis & Ritchie,⁹ Kernahan & Stark,¹⁰ Spina,¹¹ among others. Our case reports an example of unusual asymmetrical bilateral cleft lip and palate; due to bilaterality and the existence of an incomplete cleft in one side. This pattern is defined in the literature as rare, corroborating our case report. Some authors recognize five principles for complete bilateral cleft lip repair, which are also used to incomplete cases, they are symmetry, primary muscle continuity, proper size and shape of the filter, medial tuberculous formation starting from lateral lip elements, primary position of lateral cartilages in order to create nasal tip and columella.^{12,13} According to Penfold et al,¹⁴ there are several protocols for treatment which are frequently associated to poor long-term outcomes. Controversies, such as a stage against the repair in two steps, preliminary lip adhesion, nasal cartilage dissection and pre-surgical orthopedics interfered with the establishment of uniformity among treatments. Tan et al.¹² reports in their research that incomplete cleft lip repair is similar to the complete cases with few exceptions. In order to reach the aim of the study, primary cleft lip

repair technique with repositioning of alar cartilages was recognized. We believe that this technique supports superior adaptation of hard and soft tissue apparatus surrounding the region. In the research involving 309 patients, Yuzuriha et al.⁵ demonstrated that bilateral clefts can be classified as complete or incomplete concerning the most severe side, and as incomplete, minor-form, microform and mini-microform concerning the smallest side. Occurrences distribution of bilateral cases was 54.4% for symmetrical complete clefts, 22.3% for incomplete symmetries and 23.3% for complete or incomplete asymmetries. This retrospective study confirms our case concerning an atypical case of cleft lip conducted according to current literature patterns. Some factors such as proper time for approach, knowledge, and surgical technique are essential in order to define the best specific treatment for each cleft lip case. Bilateral cases are real challenges because they still present unpredictable results, and few studies and a wide variety of protocols available.

Acknowledgments

None.

Conflicts of interest

There is no conflicting Interest.

Patient consent form

The patient authorized the publication of your images and / or photographs in any media for educational purposes, research and dissemination of scientific knowledge without any liens and restrictions. It is also authorized, of its own free will, for the same purposes, the assignment of rights of publicity, not receiving for this any type of remuneration.

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