Bilateral Isolated Transverse Facial Cleft Repaired by Straight Line Closure: About Two Cases

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ABSTRACT

Transverse facial cleft or congenital macrosomia is a rare facial malformation. It is more common in men than in women. Unilateral form is the most frequent and appears to be associated in most cases with additional facial deformities. Bilateral form is rare and is more often isolated. The cosmetic damage it causes can be source of psychological stress. Sever form can cause oral functional disorders. These consequences justify early repair. We report two cases of isolated bilateral transverse facial cleft in a 6 month old girl and a 5 month old boy. The straight-line technique was used. Mucosal flaps from the lower lip were used to reduce the suture of the labial mucosa to 5 mm from the commissures on the upper lip. The aesthetic and functional outcomes were satisfactory.

Keywords: Craniofacial abnormality, macrostomia, scar.

I. INTRODUCTION

The commissural cleft or transverse facial cleft is a rare malformation. It represents 0.33% to 1% of all facial clefts [1] and 1 case for 60,000 to 300,000 births [2]. It can be a simple notch from the labial commissure to a wide slit extending from the mouth to the ear [3], [4]. The unilateral form is much more common [5] often with associated malformations. Several techniques have been described for treatment. We report the experience of the Pediatric Surgery Department of the Joseph Ravoahangy Andrianavalona Hospital on two cases of isolated bilateral commissural clefts treated by the "straight line" technique supplemented by a mucosal rotation flap on the labial commissures. Our objective is to demonstrate the advantage of this procedure.

II. OBSERVATIONS

A. Case N°1

This was a 6-month-old girl with a bilateral commissural cleft (Fig. 1) with difficulty in sucking. She was born at term from a first unremarkable pregnancy, with a birth weight of 3,100g. The mother was 27 years old, a controller in a mining site in Cobalt. The father was 31 years old, tour operator. No associated malformation was found. There was no family history of facial cleft. The plastic surgery was performed at the age of 6 months. It consisted of a "straight line" closure after having identified the normal limits of the commissures on the upper and lower lips. An excess mucosal flap of 5 mm was kept on either side of each commissural limit of the lower lip and on the upper lip. After muscle repair and "straight line" cheek skin closure, the mucous flaps of the lower lip cover the resected parts of the upper lip. The aesthetic and functional results were satisfactory (Fig. 2). The postoperative evolution was simple. The patient returned home on the 2nd day after the intervention.

B. Case N°2

It was a 5-month-old boy with bilateral commissural cleft (fig. 3) and suction difficulty. He was born at term from a third unremarkable pregnancy with a birth weight of 2,900g. The mother was 30 years old, a housewife. The father was 32 years old, trader. The collaterals were in good health, and no family history of facial cleft was found. There was no associated malformation. The surgery was done at the age of 5 months. The same technique as that described in the first
patient was adopted: muscle identification and repair, "straight line" closure on the cheek skin completed by a mucous flap from the lower lip which covers part of the lip. superior to give a soft, non-scarring mucosa on the commissures. The postoperative evolution was simple. The aesthetic and functional results were satisfactory (Fig. 4). Discharge from the hospital was authorized on the 2nd day of the operation.

Treatment aims to restore early the normal shape of the face and the functions of the oral cavity [13]. Several techniques have been described: the Z-plasty, the W-plasty and the straight line. Z- and W-plasties give longer and more visible scars in hypertrophic scars [14]. Thus, in Africans and patients with dark skin, straight-line is the most suitable technique [15]. Whatever the technique used, the esthetic and functional results largely depend on the reconstruction of the orbicularis muscle [10], [15].

The particularity of our technique was the use of mucosal flaps from the lower lip to bring the suture of the labial mucosa to 5 mm from the commissures on the upper lip. This technique made it possible to have an intact mucosa, without scars, at the level of the commissures and to prevent a possible subsequent scarring during large mouth openings.

IV. CONCLUSION

The "straight line" procedure gives excellent aesthetic and functional results in the case of a commissural cleft. Scar fissuring at the level of the labial commissures can be prevented by a mucosal rotation flap covering this area.

III. DISCUSSION

Commissural cleft or congenital macrostomia is a rare form of facial cleft. It represents only 0.33% to 1% of all facial clefts [1]. Its incidence is 1 case in 60,000 to 300,000 births [6] with a male predominance [7]. The unilateral form is much more common. This form is often associated with other facial malformations, especially mandibular and auricular [8], [9]. The bilateral form is rare and most often isolated [4], [8].

It is due to a defect in fusion of the maxillary and mandibular parts of the first brachial arch [2], [10]. The risk factors are: paternal age over 40 and maternal age over 35, alcohol consumption during pregnancy, environmental factors and family history of facial cleft [11]. For our first patient, mother’s occupation could be in question.

This malformation causes significant family psychological trauma [6]. It would even justify infanticide in certain societies [5]. Apart from the psychological trauma, the aesthetic damage it causes can profoundly affect the patient's body image if treated after school age [11]. For the bilateral form, depending on its severity, functional disorders concerning language, sucking, chewing, oral restraint and swallowing can be observed [12].

CONFLICT OF INTEREST

All authors certify that they have no affiliation or involvement in any organization or entity with the interests (such as honoraria, scholarships, participation in speakers' offices; and expert testimony or agreements of patent license), or non-financial interests (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject or material discussed in this manuscript.

REFERENCES

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