

Three Surgical Methods for the Treatment of Cheiloplasty Sequelae

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ABSTRACT

On account of the various lip deformities seen in patients with sequelae from lip and palate clefts; the great number of patients seeking our services; and the necessity to standardize technical norms, the present work has been written, presenting three surgical methods for correction of sequelae from cheiloplasty. Each method is judiciously analysed as to the indication of the proper surgical treatment for the degree of labial deformity.

INTRODUCTION

The lip deformities in patients who present clefts include a great diversity, and our service, as a reference center for the treatment of patients with lip-palate clefts and counting on specialized professionals who act on the fields of Plastic Surgery, Orthodontia, Phonoaudiology and Psychology, receives daily several patients already submitted to cheiloplasty and who present lip deformities. From the beginning of this century on, several surgeons performed outstanding works

in the creation of new cheiloplasty methods; in 1936, Victor Veau published his extensive experience on lip clefts correction. Robert Abbe, Le Mesurier, Charles Tennison, Ralph Millard, among others, have also published important cheiloplasty techniques which, added to the most recent methods, offer us nowadays several alternatives for the treatment of cheiloplasty-induced lip deformities. With the purpose of establishing a routine for the treatment of those sequelae in different

degrees of surgical complexity, a study has been performed with three different surgical methods, applied in accordance with the clinical picture of each patient.

MATERIAL AND METHODS

The literature provides us with the definition of a clefted patient with no sequela, like that who presents a symmetrical and mobile upper lip, with the adequate alignment of the cutaneous-mucosal line, defined and harmonious presence of the “Cupid arc” and of the filter, a minimal amount of scars, a properly thick vermillion presenting median tuberculum and, in addition to all that, also the nasal wings [?] and columella symmetry (Mélega⁴).

To turn easier the diagnosis and procedure, we may didactically classify the upper lip secondary deformities in:

Light:

- ◆ Desalignment of the cutaneous-mucosal line: Often result of technical faults (suture under tension, infection of the suture line, etc.).
- ◆ Unaesthetic scars: Also result of technical faults, like suture under tension, infections, development of hypertrophic scar.

Moderate:

- ◆ Incomplete muscular connection: The inadequate positioning of the internal extremities of the orbicular muscles, not completely connected, causes protuberances under the

skin, at the scar sides and under the nasal wings [?].

- ◆ Lip flattening: Caused by the hypoplasia of the affected hemilip, aggravated by the lack of osseous development of the upper maxilla at the pyriform opening level.
- ◆ Tense upper lip: Without the median tuberculum, very common in cheiloplasties performed in patients with bilateral clefts, with hypoplastic prolabium.

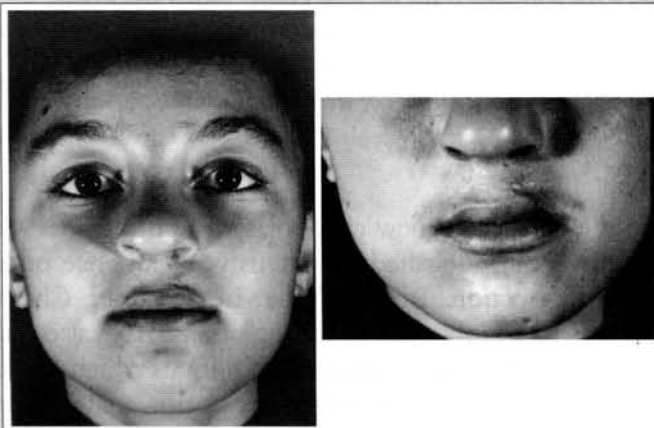
Severe:

- ◆ Absence of filter and “Cupid arc”: Result of several surgeries or infectious processes, deforming the initial scar.
- ◆ Insufficient gingivolabial sulcus: Common in patients with bilateral clefts.

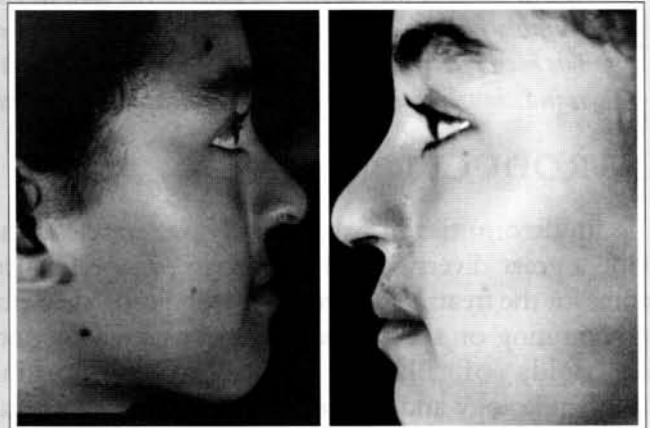
Taking under consideration the patient's complaint, the lip deformities detected by the clinical examination (unaesthetic scars, retractions in skin and labial vermillion, desalignment of the cutaneous-mucosal line and the lip mobility, dynamic examination), 11 patients with lip clefts sequelae, 7 females and 4 males, with ages from 12 to 31 – 18.9 years old in average – were evaluated.

All patients were assisted in the SOBRAPAR Craniofacial Plastic Surgery Hospital and submitted to surgery between March, 1993, and January, 1994.

The patients, classified in three groups in accordance with their clinical picture (light, moderate and se-



Figs. 1 & 3: Dermal-adipose graft (pre & postoperative view).
Figs. 1 e 3: *Enxerto dermo-gorduroso (pré e pós operatório).*



Figs. 2&4: Dermal-adipose graft (pre & postoperative view).
Figs. 2 e 4: *Enxerto dermo-gorduroso (pré e pós operatório).*

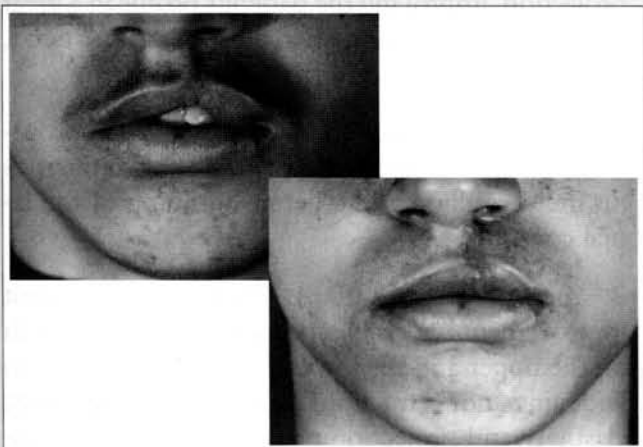
vere sequelae), were submitted to the following treatment methods:

1st Dermal-adipose graft: The use of adipose autografts for correction of depressions in the subcutaneous tissue comes from afar in time; there are references in medical literature more than a century ago. Very important are the works of Uchida⁷, Loeb² and, recently, Matsuo and Toledo³, with a great number of publications about lipografting on different areas of the body.

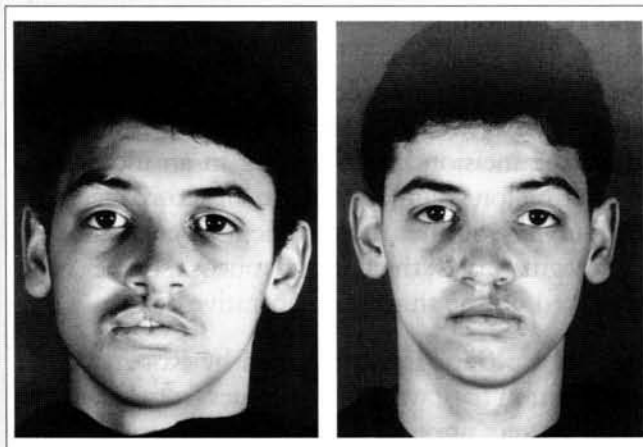
For this method application, 4 patients with slight cicatricial retraction and depression on the lip vermillion were selected. Those patients were submitted to surgery with local anesthesia by lidocaine 2% with adrenaline 1:200000 and bupivacaine 0.5% with adrenaline 1:200000. As donating area we chose the suprapubic region, incising just above

the implantation line of the pubian hairs, deepithelializing a small dermal-adipose spindle, which was "molded" in accordance with each patient's lesion. This graft was applied to the receptor area by means of an incision on the scar, which was excised and restructured in such a way that its retractions and/or widening were corrected; the graft was fixed with captonated [?] mononylon 6-0 stitches. The patients were periodically re-evaluated; the skin stitches were removed on the third post-operative day and the captonated [?] ones on the fifth.

2nd Crossed flaps of the vermillion submucosa: With some variants, this surgical technique is often used for correcting the lack of mucous tissue (vermillion) in light and moderate degrees, a condition which affects mainly patients with sequelae from bilateral lip clefts, affecting the median tuberculum,



Figs. 5 & 8: Crossed flaps (pre & postoperative view).
Figs 5 e 8: Retalhos Cruzados (pré e pós operatório).



Figs. 6 & 7: Crossed flaps (pre & postoperative view).
Figs 6 e 7: Retalhos Cruzados (pré e pós operatório).



Figs. 9 & 11: Abbe's flap (pre & postoperative view).
Figs. 9 e 11: Retalho de Abbe (pré e pós operatório).



Figs. 10 & 12: Abbe's flap (pre & postoperative view).
Figs. 10 e 12: Retalho de Abbe (pré e pós operatório).

often absent and, in some cases, patients with sequelae from unilateral lip cleft, where an intense retraction of the cicatricial process occurs, deforming the labial vermilion contour (Kawamoto¹). For this method application 3 patients with sequelae from unilateral lip cleft were selected; those patients presented cicatricial retractions of moderate degree, which affected the lip, mainly the vermilion, in such an extent

that, even when the patient's mouth was closed, the upper lateral incisive tooth was partially exposed. Those patients were submitted to the surgery with local anesthesia, in a way similar to the method previously described. The surgical procedure was based on the excision of the retractile scar of the lip and vermilion; on the vermilion, through the incision, two small lateral flaps of submucosa and orbicular muscle were made, with pedicle at their base, at random, and crossed side to side perpendicularly as to the incision line, resulting in an increase of the vermilion volume at the site. In accordance with the service routine, those patients were evaluated on a regular basis; the skin and mucosa stitches were removed on the third post-operative day.

3rd Abbe's flap: First described by Robert Abbe, the rotation flap, which uses tissues from the lower lip to correct upper lip deformities, has as accurate indication the correction of lip deformities caused by bilateral clefts; nowadays, however, it is used also for the correction of sequelae caused by unilateral lip cleft, filter deformities, absence of median tuberculum, etc. (Millard⁵). For this method application, 4 patients with sequelae from bilateral lip-palate clefts were selected; those patients presented severe cicatricial retractions which involved lip skin and mucosa, intense reduction of the gingivolabial sulcus and a great impairment of the upper lip mobility. The patients were submitted to surgery with local anesthesia, in a way similar to the methods previously described. The surgical procedure was limited to the marking of the resection area on the upper lip and flap of the lower lip; the whole fibrotic tissue was resected, as far as the spot next to the columella base. The upper orbicular muscle was



Fig. 13: Abbe's flap (postoperative view).

Fig. 13: Retalho de Abbe (pós operatório).

dissected and sutured to the orbicular muscle of the flap with mononylon 5-0; the skin was sutured with mononylon 6-0 and the mucosa with dexon 5-0. The skin stitches were removed on the third post-operative day; the flap pedicle was released on the 15th post-operative day, also with local anesthesia.

RESULTS

On the first two re-evaluations, at the 6th and 9th post-operative months, the following results were observed:

1st method (dermal-adipose graft): There was an improvement on the skin cicatricial line and an increase on the vermilion, with a consequent labial projection, improving the patient's profile in a great deal. The patients' reaction to the method was good, with no reabsorption of the adipose tissue.

2nd method (crossed flaps): There was an improvement on the cicatricial line, absence of retractions on the vermilion and a better outlining of the labial contour.

3rd method (Abbe's flap): There was an evident improvement under all aspects: the skin scars, both on the upper and the lower lip, were thin, with no widenings nor retractions. The upper lip mobility, elasticity and projection presented an obvious improvement. The new gingivolabial sulcus permitted the use of orthodontic devices and, in spite of the need of two surgical times for this method performance, the patients' reaction to it was very good.

DISCUSSION

On account of the innumerable variations of lip deformities presented by patients with sequelae from lip-palate clefts, we judged that the ample knowledge of several surgical methods for the correction of such deformities is essentially important for the plastic surgeon.

The three methods presented here are easily executable and provide encouraging results, fulfilling our purposes, which can be described as: standardization of technical norms for a better performance of the

professional in training; simplicity on the execution of the employed methods; reduction of the patient's stay under hospitalization, diminishing the overall final costs. As to the severest cases, in which we have opted for the Abbe's flap, the aesthetic and functional results were good in spite of the discomforts caused to the patient (semi-occlusion of the mouth for 14 days, need of two surgical times). The importance of an accurate diagnosis and the detailed evaluation of the progressive treatment to which the patient was submitted will indicate the simplest method for his/her deformity correction.

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