



Delaire's cheilorhinoplasty: Unilateral cleft aesthetic outcome scored according to the EUROCLEFT guidelines

Rosario Rullo^{a,*}, Francesco Carinci^e, Nicoletta Mazzarella^a,
Vincenzo Maria Festa^a, Antonio Farina^b, Danila Morano^c,
Friedrick Carls^d, Fernando Gombos^a

^a Dental Clinic, Second University of Naples, Via De Crecchio, 80138 Napoli, Italy

^b Institute of Histology, University of Bologna and Centre of Molecular Genetics, CARISBO Foundation, Bologna, Italy

^c Department Gynecology, University of Ferrara, Italy

^d Department of Maxillofacial Surgery, JRH, Oxford, UK

^e Chair of Maxillofacial Surgery, University of Ferrara, Italy

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Summary

Objective: The aim of our study is to evaluate, in accordance with EUROCLEFT guidelines, the aesthetics of nasolabial area in a sample of complete unilateral cleft of lip and palate patients (UCLP), after surgical correction with Delaire' technique. **Methods:** Twenty-two UCLP patients (16 males and 6 females, 9 right and 13 left side clefts) were enrolled in this retrospective study. Patients were operated at 7 (mean value) months of age by a single surgeon. Frontal and sub-mental photos for each baby were recorded at 8.5 (mean value) years of age, and evaluated twice, by three independent maxillofacial surgeons. A five-point scale (EUROCLEFT guidelines) was used. Nonparametric analysis (Kruskal–Wallis test) was applied to detect differences in medians obtained in studied groups.

Results: Kruskal–Wallis test showed no statistical significant differences among evaluations of three surgeons and between the first and the second evaluation of the same surgeon. The global appearance of the upper lip and nose was scored with a mean value of 2 (i.e. good). The sample was then divided into two subgroups, according with patient' age; the aesthetics and the symmetry of the nose resulted better in elder patients (i.e. subgroup A, mean period of observation = 10.2 years), whereas upper lip achieved better results in younger patients (i.e. subgroup B, mean period of observation = 4.9 years).

* Corresponding author. Tel.: +39 081 5665508; fax: +39 081 5665508.
E-mail address: rosario.rullo@unina2.it (R. Rullo).

Conclusions: EUROCLEFT guidelines are a useful method to evaluate – aesthetically and over time – cleft lip and palate patients, treated with a single surgical procedure. We hypothesize that Delaire technique could progressively improve aesthetics and symmetry of the nose, throughout the growth of the patient.

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1. Introduction

Orofacial cleft is a congenital malformation characterized by an incomplete formation of those structures which separate nasal from oral cavities (i.e. lip, alveolus, hard and soft palate), and can affect the right, the left or both sides. This malformation is one of the most common anomalies in man, with an average incidence of 1–2 every 1000 live births [1,2].

The complete unilateral cleft of lip and palate (UCLP) determines a condition of high asymmetry of mid-face; in fact, the lack of continuity of perilabial musculature, through the midline, contributes to the anomalous position of underlying osseous structures (i.e. pre-maxilla and emimaxilla), which are often underdeveloped and misplaced, on the affected side [3,4]. Moreover, the complete cleft of the lip, going up to the nasal floor, causes an anomalous position of the nasal cartilages, both the septal and the alar ones [3], determining a flattened nostril.

The primary surgical treatment of the nasolabial area is of paramount importance, in order to obtain both an aesthetical correction of the deformity and, a progressive and a balanced development of mid-face.

Meanwhile, several retrospective studies on UCLP treatment focus on cephalometric and dental arch relationship outcomes, very few analyze the facial appearance after primary surgical correction [5]. The need of additional treatments (like surgical revision or orthodontic treatment) and a proper follow-up (at least 5 years) could, in fact, make hard to select a wide and homogeneous group of patients. In addition, no universally accepted method for aesthetic evaluation of CLP patients was available until 1999 [6], when EUROCLEFT proposed an “easy-to-apply” method and we, therefore, decided to follow it to evaluate our patients.

The aim of our study is to evaluate, according to EUROCLEFT guidelines, the aesthetics of nasolabial area in a sample of UCLP patients after primary surgical correction in accordance with Delaire’ technique [3].

2. Materials and methods

Twenty-two babies (16 males and 6 females, mean age 7.09), born between 1990 and 2000, affected by

a non-syndromic complete UCLP (13 left and 9 right), were randomly selected for this retrospective study. All the patients were operated, by a single surgeon, at the Dental Clinic of the Second University of Naples.

The patients underwent the same primary surgical protocol: the functional reconstruction of nasolabial area, in accordance with the philosophy of the functional cheilorhinoplasty technique of Delaire [3,7] (Fig. 1), was performed between 4 and 6 months of age; subsequently, a functional closure of the soft palate was carried out [8] between 10 and 12 months of age, and finally, the gingivo-alveoloplasty [4] and the hard palatoplasty [3,8–10] were performed between 12 and 36 months of age. Those patients who had undergone secondary lip or nasal revision, or had already begun an orthodontic treatment at the time of our study, were excluded from the sample.

Two color-standardized photos were recorded for each patient: one frontal and one sub-mental (Fig. 2). Since it is known that the surrounding facial features can influence the judgment of nasolabial area [11–13], we took care of reproducing exclusively the labial and the nasal regions [14–16].

The aesthetics assessment was made according to the method proposed by Asher-McDade et al. [12], Morrart et al. [15] and EUROCLEFT [17] (Table 1); the original method was slightly modified, as afterward reported. The selected variables regarding the upper lip were: (1) overall appearance, (2) continuity of the

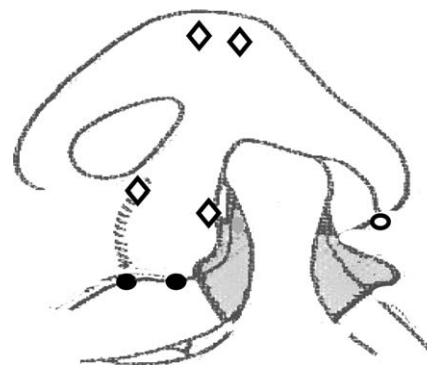


Fig. 1 Delaire functional cheilorhinoplasty. The grey areas represent the incision lines drawing; (◇) alar domes and the base of columella, both of cleft and non-cleft side; (●) peak and base of Cupid's bow; (○) junction of the alar cartilage and lip on the cleft side.

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