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Patient evaluation of outcomes of external rhinoplasty for unilateral cleft lip and palate

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Abstract. Thirty-five patients (range 16–59 years) with cleft-lip nasal deformity treated by external rhinoplasty were evaluated for satisfaction and perception of outcomes. Treatment involved alar base relocation and augmentation of the asymmetric nasal tip with auricular cartilage grafts. The patients completed a satisfaction survey and interview at the 2-year follow-up visit. A visual analogue scale (VAS) numbered 0–10 was also used by the patients to grade outcome compared to preoperative appearance at 4 anatomic sites.

Prior to surgery, the nasal tip was perceived as being most deformed (15/35), followed by alar position (12/35) and nasal apertures (8/35). The site on the nose most improved by surgery was the tip (15), followed by alar position (10), symmetry of nostrils (6) and dorsum (4). The highest VAS score was for the tip (8.32), followed by alar position (7.59), dorsum (7.41) and symmetry of nostrils (6.73). No patients suffered long-term pain for more than 2 months following surgery. All patients were prepared to undergo such procedure for a second time, if necessary. The unilateral cleft-lip nasal deformity can be improved in the eyes of the patient, using the combination of external rhinoplasty with alar base relocation, where necessary, and auricular cartilage augmentation of the nasal tip.

Keywords: External rhinoplasty; Cleft lip and palate; Patient satisfaction.

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The cleft-lip nasal deformity is difficult to correct at both primary and secondary surgical settings[15,31]. A variety of surgical approaches to treat aspects of this deformity have been described[1,2,7,18,29,31]. These may involve primary correction of the unilateral cleft-lip nasal deformity at the time of primary lip repair[12,18,23] or correction in secondary cases later on in life[9]. The evaluation of such techniques generally involves the use of a rating scale that often concentrates on the impression of other professionals or trained lay evaluators. Unfortunately, this approach overlooks the patient's perception of the results of their own repairs or reconstruction[3,12,21,25].

The goal of primary correction is the prevention of the severe cleft nasal deformity often seen in secondary cases. However, most authors acknowledge the need for surgical revision at a later point in life, regardless of the technique used in primary repair[4,13,18,26]. Mulliken and Martinez-Perez[18] reported their 15-year experience using the Millard rotation-advancement principle for repair of unilateral complete cleft lip with nasal deformity. During the entire study period, 80% of children needed or would later require nasal revision. An improvement was noted

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in the last 5 years of the study, as the incidence of patients requiring further alar suspension diminished[18].

Salyer[21] reported on his personal experience in 400 cases of unilateral cleft-lip nasal deformities reconstructed by synchronous rotation advancement correction of the cleft lip and alar cartilage repositioning. Improvement was noted in 80% of cases, with 20% requiring additional techniques later in life to achieve the desired symmetry. In a further study of 750 patients over a 33-year period[23], approximately 35% of patients treated with primary unilateral cleft-lip/nose repair required minor secondary reconstruction at the age of 5 years[23]. In another study of 29 primary cheiloplasties using rotation advancement closure, 12 lip revisions and 9 rhinoplasties were required[3]. Using a rating scale with 4 degrees of severity (mild, moderate, severe, very severe) and 5 categories of outcome (excellent, very good, good, satisfactory, poor), the authors found that 7 of the 9 rhinoplasties produced excellent results and the other 2 produced satisfactory results[3]. While such rating scales are of interest, they do not take into account the patients' perception of postoperative improvement or satisfaction with their own treatment outcomes.

Nasal tip reconstruction in cleft and non-cleft noses has been reported using auricular and septal cartilage[5,20,25,28]. Both columellar strut grafts and nasal-tip shield grafts have been used successfully to improve the cleft-lip nasal deformity[30].

The results of the preceding studies indicate that a certain number of cleft patients will require secondary correction of their residual cleft-lip nasal deformity at some point during their lifetimes[5,6,8–10,14–17,19,22,27]. Most studies have considered the opinions and evaluations of others, rather than those of the patients[9,12]. The authors of the current study feel that it is important to consider what patients perceive as the most deformed parts of their anatomy preoperatively and how they subsequently regard the outcome of surgical correction. The objective of this study was to evaluate the satisfaction and

Table 1. Sample of questionnaire with responses

Questionaire

Name:_____ Date of procedure:_____

Interview date:_____

1. What was more painful?

35 Rhinoplasty operative site

0 Auricular cartilage harvest site

2. Point to the part of your nose that you felt was the most undesirable before your last nose correction surgery.

A. Dorsum 0 **B.** Tip 15 **C.** Alar base 12 **D.** Nostrils 8

3. Point to the part of your nose which was most improved by your latest nose correction surgery.

A. Dorsum 4 **B.** Tip 15 **C.** Alar base 10 **D.** Nostrils 6

4. The patient to rate with the VAS provided, their satisfaction with their surgical outcomes at the following sites:

A. Dorsum 7.41
B. Tip 8.32
C. Alar base 7.59
D. Nostrils 6.73

5. Do you currently have any pain due to the procedure?

A. No 35 **B.** Yes 0

If yes, does it limit your activity?

A. Strongly agree **B.** Agree **C.** Neither agree nor disagree **D.** Disagree **E.** Strongly disagree

6. If required, would you undergo the procedure again?

A. No 0 **B.** Yes 35