Evaluation of modified unilateral nasoplasty in patient with post operation of unilateral labioplasty at Malahayati Hospital Banda Aceh: a cohort study from 2017-2019

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ABSTRACT

Background: Nasal deformity associated with a cleft lip has been viewed as one of the most challenging reconstructive rhinoplasty problems. The common clinical features associated with cleft lip nasal deformity are its lack of symmetry, alar collapse on the affected side, short nasal length, loss of tip definition, obtuse nasal labial angle, and altered columella show among others. This study aims to evaluate the modified unilateral nasoplasty in a patient with post-operation of unilateral labioplasty at Malahayati Hospital Banda Aceh as a cohort study.

Methods: We conducted a retrospective cohort study involving 139 patients who completed the unilateral rhinoplasty operation at Malahayati Hospital from January 2017 to November 2019. Demographic information was recorded, such as the ratio between pre-operation and post-operation, gender, and age. Data were analyzed using SPSS version 20 for Windows.

Results: Our results have shown the comparison between cleft nose before rhinoplasty and cleft nose after rhinoplasty is 0.26 vs. 0.58 cm. The patients who came to the hospital to do the unilateral rhinoplasty surgery are 81.00%. Females (61.20%) experienced rhinoplasty more dominant compare to man (38.80%), and the highest age average is between 1 year old until 7 years old (71.00%).

Conclusion: Improvement in procedure's duration and better positioning of both nasal tip and nostril. Expected improvements in terms of aesthetics and functions were observed, but further documentation is still needed.

Keywords: Cleft Nasal, Modified Unilateral Rhinoplasty, Gender, Age, Outcome.


INTRODUCTION

Blair and Brown first described the cleft nose in 1931, critically identifying the nuances of the pathology.¹ The nose and the lips develop from derivatives of these prominences as follows: frontonasal prominence, lateral nasal process, medial nasal process, maxillary prominences, mandibular prominences, mesenchyme in the facial prominences.² The most complicated morphogenetic movement occurs between the fourth and eighth weeks of embryogenesis.³

Nasal deformity associated with a cleft lip has been viewed as one of the most challenging reconstructive rhinoplasty problems. The complexity of cleft lip rhinoplasty is demonstrated by the abundance of available techniques for its correction.⁴ The common clinical features associated with cleft lip nasal deformity are its lack of symmetry, alar collapse on the affected side, short nasal length, loss of tip definition, obtuse nasal labial angle, and altered columella show among others.⁵ The surgical approaches for a cleft lip rhinoplasty can be a closed endonasal or an open approach. The open or external approach is indicated in cases where there is a severe deformity of the nasal tip.⁶

Based on those mentioned above, this study aims to evaluate the modified unilateral nasoplasty in a patient with post-operation of unilateral labioplasty at Malahayati Hospital Banda Aceh as a cohort study.

METHODS

We conducted a retrospective cohort study involving 139 patients who completed the unilateral rhinoplasty operation at Malahayati Hospital from January 2017 to November 2019. Demographic information was recorded, such as the ratio between pre-operation and post-operation, gender, and age.
fixation of the inner nasal area between the cleft and the non-cleft area (transnasal sutures) creates the nasal dome for better symmetry and projection (raise the cartilage/repositioning the cartilage) to a relatively normal position. It was sewn using absorbable thread Proline 6-0 and eventually make the septum cartilage stand straight. Data were analyzed using SPSS version 20 for Windows.

RESULTS

According to Table 1, most of the surgery conducted at Malahayati Hospital from January 2017 to November 2019 were unilateral rhinoplasty (81.00%). In addition, this study found that female was predominant (61.20%) and followed by 1-7 years age group (71.00%) (Table 1). There was a tendency for nostril height improvement in 2017 before (0.68 and 0.28 cm) and after (0.73 and 0.68 cm) surgery on normal and cleft side, respectively (Table 1). The similar findings were also found in 2018 (0.54; 0.26 vs. 0.57; 0.53 cm) and 2019 (0.57; 0.24 vs. 0.69; 0.64 cm) before and after surgery, respectively (Table 1). Several pictures regarding the modification technique by Dr. Muhammad Jailani, SP.BP-RE before and after the intervention of modified unilateral nasoplasty in patients with post-operation of unilateral labioplasty were depicted in Figure 1.

DISCUSSION

A deformed nose that results from the unilateral cleft of the lip and palate is likened...
to a tent whose one side is depressed.\textsuperscript{10} The orbicularis oris muscle inserts into the nasal base on the cleft side, retracting it laterally and inferiorly. The goal of rhinoplasty surgery includes creating nasal symmetry, the definition of nasal base and tip, relief of nasal obstruction, and management of nasal scarring.\textsuperscript{11} The previous literature also reports various methods with which to assess the cleft lip nasal deformity.\textsuperscript{12} According to a study by Kaufman Y et al., an open rhinoplasty can be performed to expose the bilateral cartilage on the lower lateral sides and directly observe the geometric difference.\textsuperscript{9} If there are any lateral vestibular webbing occurs through an incision, a V-Y or back-cut type incision can be used to extend the lateral nasal wall and advance the lower lateral cartilage forward.\textsuperscript{13,14} Improvement in procedure's duration and better positioning of both nasal tip and nostril (pre – rhinoplasty and post–rhinoplasty ratio is 0.26 vs. 0.58 cm) and expected improvements in terms of aesthetic and functions were observed, but further documentations still needed.

**CONCLUSION**

Dr. Muhammad Jailani, SpBP-RE introduced this modified technique; even without doing the usual technique, the surgical outcome still comes well. This technique can be applied to unilateral cleft nose post–labioplasty procedure.

**ETHICAL CLEARANCE**

Ethics approval has been obtained from the Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia prior to the study being conducted.

**CONFLICT OF INTEREST**

The authors have no conflicts of interest to disclose.

**FUNDING**

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**AUTHOR CONTRIBUTIONS**

All authors drafted the manuscript. All authors listed have made substantial, direct, and intellectual contribution to the work and approved the final manuscript.

**REFERENCE**