

EVALUATION OF THE OUTCOME AFTER REPAIR of CLEFT LIP NASAL DEFORMITY

Thesis

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وَقُلْ أَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ
وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ إِلَى
عِلْمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا
كُنْتُمْ تَعْمَلُونَ ﴿١٠٥﴾

Abstract

Cleft lip nasal deformity is one of the most challenging procedure in the plastic surgery. Cleft lip is the most common congenital anomaly in the head and neck. Secondary repair of the cleft lip nasal deformity is very important procedure for reaching the final aesthetic goal. The repair of the secondary deformities in adults have the advantage of using more aggressive rhinoplasty techniques via open rhinoplasty.

Key words: cleft lip, cleft lip nasal deformity

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INTRODUCTION

Cleft lip and cleft palate are the most common congenital anomalies of the head and neck, having the incidence of 1:500 to 1:2500 births with male to female ratio 2:1.(Jiang et al., 2006) The incidence of cleft lip or palate or both in the United States has been reported to be as high as one in 762 births (Weinzweig et al., 2008).

All cases of cleft lip with or without cleft palate are associated with variety of deformities. This study is considering the illustration of one of them namely the cleft lip nasal deformity. Cleft lip nose deformity repair remains one of the most challenging surgical procedures. The earliest attention to the details of the nasal abnormalities associated with the cleft lip is credited to Blair and Brown in 1931 (Blair, 1931). Gillies and Millard claimed in 1966 that the correction of the nasal deformity at the time of lip repair would be unreasonable because the deformity is so complex (Gillies, 1966).

Aufricht stated , “the operation to correct skeletal asymmetry of the nose in association with harelip should be deferred until the age of 16 or 17”.(Aufricht, 1955) Broadbent and Woolf in 1984 reaffirmed Aufricht’s position that many noses repaired during infancy eventually flattened out during adolescence and required additional surgery (Broadbent and Woolf, 1984).

As a more successful and uniform rhinoplasty approach was developed and pleasing results were achieved, the trend started changing as early as the late 1960s. Additional clinical evidence was also garnered to dispute the adverse effects caused by early cleft lip rhinoplasty on the nasal cartilage growth and development (Guyuron, 2008).

Today, a large number of nasal deformities are corrected during the cleft repair. Although this operation reduces the psychosocial consequences of an otherwise uncorrected cleft nose deformity, it does not necessarily eliminate the need for a future operation, nor does it diminish the magnitude of a future operation (Guyuron, 2008).

One compelling argument against a cleft lip nose repair before the age of maturity, especially when it is in conjunction with cleft palate, is that these patients commonly have maxillary deficiency and may need orthognathic surgery and maxillary bone grafting. Ideally, if maxillary surgery is contemplated, it should precede repair of the cleft lip nasal deformity. Maxillary advancement is not advised before the age of 14 to 15 years for a female patient and 17 to 18 years for a male patient, unless. serial cephalograms or hand radiographs demonstrate completion of bone growth, Otherwise, if the maxilla is advanced and the mandible continues growing, the patient may need another maxillary advancement, which can alter the outcome of the cleft lip nasal repair (Guyuron, 2008).

AIM OF WORK

The aim of this work is to evaluate the results of secondary repair of cleft lip nasal deformity. Also to evaluate the role of different types of sutures to the cartilaginous component and the role of cartilage graft in correction of different encountered problems.

EMBRYOLOGY

The lip and palatal regions are developed from the embryonic primary and secondary palates. The primary palate contributes to the lip, anterior tooth-bearing alveolus, and the anterior palate up to the incisive foramen. The secondary palate contributes to the remaining hard and soft palates(Wong and Hagg, 2004).

During the fourth week of gestation, neural crest cells from the anterior neural tube migrate to form the facial primordia, from which the nasal and the lateral maxillary processes fuse to form the primary palate (Fig. 1). The secondary palate begins to form in the sixth week of gestation. Palatal shelves initially appear as two downward extensions from the inner side of the left and right maxilla along the lateral surface of the tongue. In the ninth week, the two palatal shelves undergo a rapid horizontal transformation, by moving over the tongue and fusing with each other and with the nasal septum. Failure in the fusion of primary or secondary palates leads to clefts of the respective areas. Thus, cleft lip/ palate appears commonly as cleft lip with or without cleft palate or isolated cleft palate. Clinically, when CLP appears with other (usually two or more) malformations in recognizable patterns, it is classified as syndromic cleft lip/ palate (SCLP). If it appears as an isolated defect or if syndromes cannot be identified, the term non-syndromic cleft lip/ palate (NSCLP) is used(Wong and Hagg, 2004). On the