**Tip Rhinoplasty and/or Septoplasty for Correction of Cleft Lip Nasal Deformity at the Time of the Primary Cleft Lip Repair: Analysis of National Database**

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**Introduction**:

All patients with cleft lip or cleft lip/palate exhibit some degree of cleft lip nasal deformity and present with a congenitally deviated septum. The decision to perform a primary versus intermediate tip rhinoplasty remains contingent upon the surgeon's expertise and regional practice patterns. Limited studies have conducted national-level investigations on the percentage of patients undergoing tip rhinoplasty at the time of a primary cleft lip repair. The purpose of this study is to conduct one of the first national studies to examine the prevalence and demographic factors associated with tip rhinoplasty and/or septoplasty at the time of the primary cleft lip repair.

**Methods**:

Data were extracted from TriNetX, a national deidentified aggregate database encompassing over 110,000,000 patients across 78 different healthcare organizations. Inclusion criteria included unilateral and bilateral cleft lip repairs (CPT-40700, CPT-40701, CPT-40702) completed between 1/1/2000 to 11/3/2023 on patients aged less than 12 months. Patients were excluded if they were billed with both unilateral and bilateral cleft lip repair. Data were further parsed to determine who had a concurrent tip rhinoplasty (CPT-30460) and/or septoplasty (CPT-30462) billed on the same day of cleft lip surgery. Patients were then categorized by the year they had the surgery. The year 2023 had an incomplete dataset of 9.5 months. Patients’ demographic data were extracted and analyzed through TriNetX. TriNetX divided the US into four regions: Northeast, Midwest, South, and East. Linear regression analysis was then performed using PRISM software.

**Results**:

Of the 5,444 patients who underwent a primary cleft lip repair, 47.8% (n=2,699) were billed for a concurrent rhinoplasty and/or septoplasty on the same day. In this patient population, 63.0% (n=3,555) of patients were male and 61.7% (n=3,481) where White. In the South region of the US, 35.7% (n=2,015) of patients underwent a tip rhinoplasty at the time of primary cleft lip repair.

The overall prevalence of tip rhinoplasty and/or septoplasty for unilateral and bilateral cleft repairs in the past 23 years increased over time, paralleling similar findings in total patients who underwent only cleft lip repair. There is a positive linear correlation between prevalence of concomitant tip rhinoplasty and/or septoplasty and time (p < 0.05). The prevalence of concomitant tip rhinoplasty and/or septoplasty increased from 13.9% (n=5) in 2000 and to 47.8% (n=2,699) 2023.

**Conclusion**:

About 50% of patients younger than 12 months receive concomitant tip rhinoplasty and/or septoplasty for correction of cleft lip nasal deformity at time of primary cleft lip repair. While both the incidence and prevalence of concurrent rhinoplasty and/or septoplasty have increased over the past two decades, this number may be underestimated, as billing practices may vary.