

EFFECT OF MAXILLARY ADVANCEMENT ON NASAL AIRWAY DIMENSIONS IN ADULTS WITH UNILATERAL CLEFT LIP AND PALATE

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Objective: To evaluate the effect of orthognathic surgery with maxillary advancement on nasal airway dimensions on the side affected by the cleft. **Methods and Results:** The minimum cross-sectional nasal area on the cleft side and the non-cleft side were measured by anterior rhinomanometry using a PERCI-SARS system, on average 14 days before and 17 months after Le Fort I osteotomy with maxillary advancement in combination or not with procedures involving mandible. The study was conducted in twenty subjects, aged 17 to 34 years (24 years on average), 11 males and 9 females, with repaired unilateral cleft lip and palate, maxillomandibular discrepancy and reduced nasal area on the cleft side. A significant increase ($p<0,001$) in the mean value of the nasal area on the cleft side was observed after orthognathic surgery, from $13\pm4\text{mm}^2$ to $25\pm11\text{mm}^2$. On the non-cleft side, the mean area was $38\pm14\text{mm}^2$ before orthognathic surgery and $39\pm14\text{mm}^2$ after the surgery. Difference was not statistically significant ($P=0,902$). In addition, the cleft side and the non-cleft side differed statistically from each other before ($p<0,001$) and after ($p=0,002$) orthognathic surgery. **Conclusion:** Preliminary findings have shown that maxillary advancement can not only increase but also normalize internal nasal dimensions on the cleft side, contributing to the overall nasal patency.