Changes in acoustic airway profiles and nasal airway resistance after Le Fort I osteotomy and functional rhinosurgery: a prospective study.

The aim of this study was to investigate the changes in nasal airways after Le Fort I osteotomy and functional rhinosurgery. 49 patients were included in this study to assess intranasal anatomical and functional changes resulting from a Le Fort I osteotomy. The data were classified according to the three-dimensional positioning of the maxilla: in group I the maxilla was impacted; in group II the maxilla was inferior; and in group III only sagittal maxillary movement was performed. Presurgical and 5 months postsurgical rhinological inspection, anterior rhinomanometry and acoustic rhinometry were carried out. Additional rhinosurgery, such as resection of the inferior concha or septoplastic intervention, was performed to avoid functional problems in nasal breathing, particularly when the maxilla was impacted. Rhinomanometric assessment showed a significant improvement in nasal breathing in the whole group and each single group. Acoustic rhinometry revealed an increase in typical cross-sectional intranasal areas. The authors conclude that concerns about the respiratory consequences of this surgical procedure appear unwarranted when functional rhinosurgery is undertaken concomitantly, particularly in patients with increased preoperative nasal airway resistance.