Middle meatal nasal surgery for Obstructive sleep apnea

Peter Catalano
St. Elizabeth’s Medical Center/Tufts University School of Medicine, USA

The curative impact of nasal surgery on patients undergoing septal and turbinate surgery for obstructive sleep apnea (OSA) has been minimal. New models of nasal airflow mechanics have shed important light on key functional elements of nasal obstruction. Based on this information, we evaluated middle meatal nasal surgery targeting areas of maximum nasal airflow as an appropriate treatment option for patients with OSA. An IRB-approved study was performed including consecutive adult patients with the diagnosis of “obstructive sleep apnea” who underwent nasal surgery by a single rhinologic surgeon during an 18-month period. The types of nasal surgery included: Uncinectomy, anterior ethmoidectomy, reduction of a middle turbinate concha bullosa, shaving of the lateral aspect of an enlarged middle turbinate, endoscopic septoplasty and submucous inferior turbinate resection, and nasal valve repair. The primary outcome measure was change in apnea-hypopnea index (AHI). Additional outcome measures included change in body mass index and oxygen-saturation (O2)-nadir. 27 patients were identified with pre- and postoperative polysomnography results. Average preoperative AHI was 34.3; Range 7.5-97.3 and decreased to postoperative mean of 15.5; Range 3.3-47.5 (n=27; p<0.0001). However, O2-nadir and BMI remained relatively stable (∆ O2-nadir 0.1%; ∆BMI -0.1). No surgical complications occurred in this cohort. As illustrated by computational fluid dynamics, nasal surgery for OSA is further optimized by concurrent targeted middle meatal surgery. Our surgical protocol is the first to demonstrate significant reduction in AHI for OSA patients for all BMI categories regardless of severity.

Biography

Peter Catalano, MD completed his Doctor of Medicine from Mount Sinai School of Medicine in NY. He is currently Professor of Otolaryngology at the Tufts University School of Medicine, Chief of Otolaryngology at St. Elizabeth’s Medical Center. He has published over 74 publications in reputed journals; written over 21 book chapters; been invited to over 175 lectures; completed 80 presentations.

peter.catalano@steward.org