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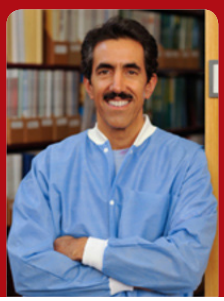

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Nasal and sinus surgery for treatment of OSA

Background & Aim: 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 mental and nasal surgery targeting areas of maximum nasal airflow as an appropriate treatment option for patients with OSA.

Methods: 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 a 36-month period. 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, sub-mucosal radiofrequency ablation of the inferior turbinate and septal swell body 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.

Results: 42 patients were identified with pre and postoperative polysomnography results. Average preoperative AHI was 31.0; range 6.3-97 to postoperative mean of 15.4; range 0.3-79.2 (n=42; $p<0.0001$). Surgical cure rate was 46.5%. However, O2-nadir and BMI remained relatively stable (Δ O2-nadir -0.1; ΔBMI 0.2). No surgical complications occurred in this cohort.

Conclusion: As suggested by computational fluid dynamics, targeted middle meatal surgery, swell body ablation and nasal valve repair, concurrent with septal and inferior turbinate surgery, further optimizes nasal surgery for OSA. Our surgical protocol is the first to demonstrate significant reduction in AHI for patients with OSA regardless of the severity of BMI.

Biography

Peter J Catalano is Professor of Otolaryngology at Tufts University, School of Medicine. He is the Chief at Division of Otolaryngology Head & Neck Surgery.

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