Individualized Multilevel Surgical Management of Severe Obstructive Sleep Apnea in a Young Obese Adult: A Case Report

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Background: Obstructive sleep apnea (OSA) is characterized by recurrent upper airway collapse during sleep, leading to hypopnea or apnea with oxygen desaturation or arousal. While continuous positive airway pressure (CPAP) remains the first-line therapy, adherence is often limited, and symptoms typically recur if therapy is discontinued. Multilevel surgery can address multiple obstruction sites and serves as a safe, long-term alternative, especially in young adults with adenotonsillar hypertrophy, obesity, or craniofacial abnormalities.

Case Presentation: A 26-year-old obese male (BMI = 33.1) presented with nasal obstruction, rhinorrhea, throat discomfort, poor sleep with snoring, and daytime hypersomnolence. Baseline PSG demonstrated severe OSA with positional variation. Laryngoscopy and rhinomanometry revealed multilevel obstruction. The patient declined CPAP after counseling.

Intervention and Outcome: Septoturbinoplasty and soft palate somnoplasty were performed first, improving nasal resistance but not AHI. Despite modest weight reduction with GLP-1 therapy, recurrent symptoms prompted uvulopalatopharyngoplasty (UPPP). Postoperative PSG showed marked improvement, consistent with mild OSA.

Conclusion: Severe OSA often requires a multimodal approach. Staged multilevel surgery can provide significant clinical improvement when CPAP adherence is poor. Individualized planning and long-term follow-up are essential, particularly in younger patients, to monitor residual disease, weight, comorbidities, and recurrence.

中文題目：**年輕肥胖重度阻塞性呼吸中止症患者的個別化多層次手術治療：一個案報告**

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