

The influence of multilevel upper airway surgery on CPAP tolerance in non-responders to obstructive sleep apnea surgery.

[Azbay S](#)¹, [Bostanci A](#)², [Aysun Y](#)¹, [Turhan M](#)¹.

Author information

- ¹Department of Otolaryngology, Head and Neck Surgery, Akdeniz University School of Medicine, 07070, Antalya, Turkey.
- ²Department of Otolaryngology, Head and Neck Surgery, Akdeniz University School of Medicine, 07070, Antalya, Turkey. draslibostanci@gmail.com.

Abstract

The aim of this study was to evaluate the influence of multilevel upper airway surgery on subsequent continuous positive airway pressure (CPAP) use and tolerance in patients with moderate to severe obstructive sleep apnea (OSA). The study cohort enrolled 67 consecutive patients, who underwent septoplasty plus modified uvulopharyngopalatoplasty (mUPPP) with or without modified tongue base suspension (mTBS) due to CPAP intolerance, and who had residual OSA requiring CPAP therapy [non-responders to surgery, apnea-hypopnea index (AHI) >15 events/h] that had been confirmed by control polysomnography at the sixth month postoperatively. A questionnaire including questions on postoperative CPAP use, problems faced during CPAP use after the surgery, change in OSA symptoms, and satisfaction with the surgery was designed, and filled through interviews. Seventeen (25.4 %) patients had septoplasty plus mUPPP and 50 (74.6 %) had septoplasty plus mUPPP combined with mTBS. Postoperatively, mean AHI (45.00 ± 19.76 vs. 36.60 ± 18.34), Epworth sleepiness scale (ESS) score (18.00 ± 4.45 vs. 13.00 ± 4.72), oxygen desaturation index (ODI) (48.98 ± 16.73 vs. 37.81 ± 17.03), and optimal CPAP level (11.80 ± 1.40 vs. 8.96 ± 1.20) were decreased ($p < 0.001$ for all parameters). Fifty-nine percent of patients reported that they fairly satisfied with the surgery and 49.2 % reported that their symptoms were completely resolved. While none of the cases could tolerate CPAP before surgery, almost half (47.8 %) of the cases used CPAP without problems postoperatively. Postoperative CPAP users had significantly higher postoperative AHI ($p = 0.001$), supine AHI ($p = 0.009$), ESS ($p = 0.019$), and ODI ($p = 0.014$), and significantly lower postoperative minimum O₂ saturation ($p = 0.001$) compared with non-users. Multilevel upper airway surgery with less invasive techniques may improve CPAP tolerance in well-selected patients.

KEYWORDS:

CPAP; Multilevel surgery; OSA; Tolerance

PMID:

26714802

[PubMed - as supplied by publisher]