Ferguson, Kathleen A. BSc, MD, FCCP; Takasht, Ono DDS, PhD; Lowe, Alan A. DMD, PhD; Keenan, Sean P. MD; Fleetham, John A. MD. A Randomized Crossover Study of an Oral Appliance vs. Nasal-Continuous Positive Airway Pressure in the Treatment of Mild-Moderate Obstructive Sleep Apnea. Chest. Vol 109(5). May 1996. 1269-1275.

Study objective: **To compare efficacy, side effects, patient compliance, and preference between oral appliance (OA) therapy and nasal-continuous positive airway pressure (N-CPAP) therapy.**
Design: **Randomized, prospective, crossover study.**
Setting: **University hospital and tertiary sleep referral center.**
Patients: **Twenty-seven unselected patients with mild-moderate obstructive sleep apnea (OSA).**
Interventions: **There was a 2-week wash-in and a 2-week wash-out period, and 2×4-month treatment periods (OA and N-CPAP). Efficacy, side effects, compliance, and preference were evaluated by a questionnaire and home sleep monitoring.**
Measurements and results: **Two patients dropped out early in the study and treatment results are presented on the remaining 25 patients. The apnea/hypopnea index was lower with N-CPAP (3.5±1.6) (mean±SD) than with the OA (9.7±7.3) ($p<0.05$). Twelve of the 25 patients who used the OA (48%) were treatment successes (reduction of apnea/hypopnea to <10/h and relief of symptoms), 6 (24%) were compliance failures (unable or unwilling to use the treatment), and 7 (28%) were treatment failures (failure to reduce apnea/hypopnea index to <10/h and/or failure to relieve symptoms). Four people refused to use N-CPAP after using the OA. Thirteen of the 21 patients who used N-CPAP were overall treatment successes (62%), 8 were compliance failures (38%), and there were no treatment failures. Side effects were more common and the patients were less satisfied with N-CPAP ($p<0.005$). Seven patients were treatment successes with both treatments, six of these patients preferred OA, and one preferred N-CPAP as a long-term treatment.**
Conclusions: **We conclude that OA is an effective treatment in some patients with mild-moderate OSA and is associated with fewer side effects and greater patient satisfaction than N-CPAP.**
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