

Sleep disorders

CPAP for Daytime Sleepiness in Obstructive Sleep Apnea

Obstructive sleep apnea is a common condition that is characterized by recurrent obstruction of the upper airway during sleep. The airway obstruction results in repetitive episodes of asphyxia and arousal. Patients with this condition complain of daytime sleepiness, reduced alertness, and decreased quality of life. Continuous positive airway pressure (CPAP) treatment is the primary treatment for patients with obstructive sleep apnea. CPAP prevents airway collapse, thereby allowing improved sleep. However, evidence has varied on the effectiveness of CPAP in decreasing daytime sleepiness. Patel and associates conducted meta-analyses of randomized, controlled trials to evaluate the effect of CPAP treatment on daytime sleepiness in patients with obstructive sleep apnea.

The studies that were analyzed measured sleepiness using an eight-question validated subjective sleepiness survey (Epworth Sleepiness Scale [ESS]) or an objective sleepiness test such as the Multiple Sleep Latency Test (MSLT) or the Maintenance of Wakefulness Test (MWT). The quality of the 12 studies included in the final analysis varied considerably, with lack of double-blinding being the most common reason. The severity of sleep apnea and the severity of subjective sleepiness also varied greatly among the studies.

The results demonstrated that CPAP leads to a significant improvement in the subjective sleepiness ESS score as well as in the objective sleepiness MSLT and MWT scores. The results were not related to gender, nationality, mean age, or body mass index. The findings suggest that CPAP may be more beneficial for reducing sleepiness in patients with severe obstructive sleep apnea than in those with mild sleep apnea. One reason may be that some patients with mild obstructive sleep apnea have a concomitant sleep disorder (periodic leg movements, chronic sleep deprivation, occult narcolepsy, idiopathic hypersomnolence); CPAP may not have a great effect on daytime sleepiness in these patients.

The authors conclude that CPAP improves subjective and objective daytime sleepiness in patients who have obstructive sleep apnea. Studies are needed to compare CPAP with other treatment options, including oral appliances, autotitrating devices, and upper airway surgery. Studies also need to better measure potential benefits in patients with milder obstructive sleep apnea.

In an accompanying editorial, Babar and Quan note that the objective improvement in CPAP-treated patients is not entirely clear and that further studies are needed in patients with mild disease. They remind readers that questions remain about the efficacy of nasal CPAP in patients with obstructive sleep apnea.