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## Prognosis of patients with heart failure and obstructive sleep apnea treated with continuous positive airway pressure

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### Abstract

**Background:** Continuous positive airway pressure (CPAP) provides several benefits for patients with heart failure (HF) complicated with obstructive sleep apnea (OSA). However, the effect on the prognosis of such patients remains unknown.

**Aims:** To determine whether CPAP therapy and compliance affects the prognosis of HF patients with OSA.

**Methods:** We classified 88 patients with HF and moderate to severe OSA into CPAP-treated (n = 65) and untreated (n = 23) groups and then those treated with CPAP were further sub-classified according to CPAP compliance. The frequency of death and hospitalization was analyzed using multivariate analysis.

**Results:** During a mean of 25.3±15.3 months, 44.3% of the patients died or were hospitalized. Multivariate analysis showed that risk for death and hospitalization was increased in the untreated group [hazard ratio (HR) 2.03, 95% confidence interval (CI) 1.07-3.68, P = 0.030] and in less compliant CPAP-treated patients (HR 4.02, 95%CI 1.33-12.2, P = 0.014).

**Conclusion:** Therapy with CPAP significantly reduced the risk of death and hospitalization among patients with HF and OSA. However, reduced compliance with CPAP therapy was significantly associated with an increased risk of death and hospitalization.

**Key Words:** obstructive sleep apnea • continuous positive airway pressure • heart failure • prognosis • compliance

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