

Treatment of OSA Reduces the Risk of Repeat Revascularization After Percutaneous Coronary Intervention

Xiaofan Wu, MD; Shuzheng Lv, MD; Xiaohong Yu, MD; Linyin Yao, MD; Babak Mokhlesi, MD, FCCP; and Yongxiang Wei, MD

BACKGROUND: The impact of OSA treatment with CPAP on percutaneous coronary intervention (PCI) outcomes remains largely unknown.

METHODS: Between 2002 and 2012, we identified 390 patients with OSA who had undergone PCI. OSA was diagnosed through in-laboratory sleep studies and defined by an apnea-hypopnea index ≥ 5 events/h. The cohort was divided into three groups: (1) moderate-severe OSA successfully treated with CPAP ($n = 128$), (2) untreated moderate-severe OSA ($n = 167$), and (3) untreated mild OSA ($n = 95$). Main outcomes included repeat revascularization, major adverse cardiac events (MACEs) (ie, death, nonfatal myocardial infarction, repeat revascularization), and major adverse cardiac or cerebrovascular events (MACCEs). The median follow-up period was 4.8 years (interquartile range, 3.0-7.1).

RESULTS: The untreated moderate-severe OSA group had a higher incidence of repeat revascularization than the treated moderate-severe OSA group (25.1% vs 14.1%, $P = .019$). There were no differences in mortality ($P = .64$), MACE ($P = .33$), and MACCE ($P = .76$) among the groups. In multivariate analysis adjusted for potential confounders, untreated moderate-severe OSA was associated with increased risk of repeat revascularization (hazard ratio, 2.13; 95% CI, 1.19-3.81; $P = .011$).

CONCLUSIONS: Untreated moderate-severe OSA was independently associated with a significant increased risk of repeat revascularization after PCI. CPAP treatment reduced this risk.

CHEST 2015; 147(3):708-718