OUTCOME OF ACUTE MYOCARDIAL INFARCTION IN OBSTRUCTIVE SLEEP APNEA

Poster Contributions
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Background: There has been increasing interest in the concept of ischemic preconditioning and its role in cardio-protection. Obstructive sleep apnea (OSA) is characterized by recurrent episodes of apnea associated with hypoxemia and may represent a natural model for ischemic preconditioning. We examined the impact of OSA on the in-hospital mortality of patients with acute myocardial infarction (AMI).

Methods: The Nationwide Inpatient Sample, part of the Healthcare Cost and Utilization Project, is the largest publicly available inpatient database designed to provide information on characteristics and outcomes of patients discharged from United States community hospitals (non-Federal, short-term, general and specialty). Using the Nationwide Inpatient Sample, we identified 374,061 patients 18 years of age or older with a primary diagnosis of AMI, both ST elevation MI (STEMI) and non-ST elevation MI (NSTEMI) in the calendar years 2008 to 2010. Among those, 12,399 had a diagnosis of OSA.

Results: The OSA cohort was in general younger (63 yrs vs. 68 yrs p<0.001), with a higher proportion of males (72% vs. 60%, p<0.001), and a higher frequency of hypertension (55% vs. 52%, p<0.001), diabetes mellitus (53% vs. 33%, p<0.001), and obesity (46% vs. 10%, p<0.001) compared to the non-OSA cohort. In addition, patients in the OSA cohort were more likely to have a NSTEMI when presenting with an AMI compared to the non-OSA patients (75% vs. 66%, p<0.001). They were treated with PCI at the same rate (44%) but had a longer length of stay (5.3 days to 4.9 days, p<0.001). The in-hospital mortality rate for patients with AMI and OSA was 3.1%, compared to 5.7% in patients without a diagnosis of OSA (p<0.001). After adjusting for pertinent clinical and procedural variables using logistic regression analysis, OSA remained an independent predictor of lower in-hospital mortality (p=0.011, OR 0.87[0.775-0.968]).

Conclusions: Among patients presenting with acute myocardial infarction, those with obstructive sleep apnea have a lower in-hospital mortality compared to those without it.