Abstract Group: 4.2. Sleep and Control of Breathing
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Title: Impact of sleep-disordered breathing on myocardial salvage and infarct size in patients with acute myocardial infarction

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Body: Background: SDB may be a risk factor for expansion of infarct size early after acute MI by exposing the heart to repetitive oxygen desaturations and increased cardiac afterload. Objectives: The objective of this study was to assess the impact of sleep-disordered breathing (SDB) on myocardial salvage and infarct size within three months after acute myocardial infarction (MI). Methods: Patients with acute MI and percutaneous coronary intervention were enrolled in this prospective observational study. All patients underwent cardiovascular magnetic resonance (CMR) to define salvaged myocardium and infarct size within 5 days and at three months after acute MI. Patients were stratified according to apnea-hypopnea-index (AHI) assessed by polysomnography at baseline into those with (AHI ≥15/h) and without (AHI <15/h) SDB. Results: Of the 56 patients included, 29 (52%) had SDB. The area at risk between both groups was similar (40±12% vs 40±14%, p=0.925). Patients with SDB had significantly less salvaged myocardium (myocardial salvage index 52% vs 77%, p<0.001), smaller reduction in infarct size (0• 3% vs 6• 5%, p<0• 001) within three months after acute MI, a larger final infarct size (23% vs 12%, p<0• 001) and a lower final left ventricular ejection fraction (48% vs 54%, p=0• 023). In a multivariate analysis including established risk factors for large MI, AHI was independently associated with less myocardial salvage and a larger infarct size three months after acute MI. Conclusions: SDB was associated with less myocardial salvage and a smaller reduction in infarct size. These findings suggest a contribution of SDB to impaired healing of MI.