Cardiorespiratory functions

Obstructive Sleep Apnea is Related to Increased Arterial Stiffness in Ultrasound Speckle-Tracking Analysis

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Background: Obstructive sleep apnea (OSA) is an independent risk factor for atherosclerosis. The aim of our study was to determine arterial stiffness in OSA patients by means of the ultrasound speckle-tracking-based method.

Methods: 26 OSA patients and 17 control subjects were enrolled in the study. The speckle-tracking-based analysis of carotid artery included circumferential strains, circumferential strain rates, radial displacement and radial strain rates.

Results: Global average circumferential strains, circumferential strain rates and radial displacement were significantly lower in OSA patients compared to controls (2.19±0.30 vs. 4.17±0.33; 0.22±0.03 vs. 0.31±0.02; 0.10±0.01 vs. 0.16±0.02, respectively, $p<0.05$ for all). There were no significant differences in radial strain rates between the groups (0.32±0.04 vs. 0.33±0.01, resp.).

Conclusions: OSA is associated with an increased arterial stiffness measured by the speckle-tracking angiological technique.