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Prevalence of cardiac arrhythmia in obstructive sleep apnea syndrome

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**Abstract:** Repetitive transient activation of the parasympathetic and sympathetic systems in obstructive sleep apnea syndrome (OSAS) constitutes the basis for development of cardiac arrhythmias. We aimed to examine the prevalence of arrhythmias in OSAS. Materials and methods: Eighty-eight patients with suspected OSAS were included in the study. Polysomnography was performed overnight in all patients. Patients with apnea-hypopnea index (AHI) < 5 were considered OSAS negative, while patients with AHI  $\geq$  5 were OSAS positive. Arrhythmia was defined as sinus bradycardia, sinus tachycardia, > 10/h supraventricular premature beats (SVPBs), > 10/h ventricular premature beats (VEBs), complex VPBs (bigeminal, trigeminal VEB or nonsustained VT), supraventricular tachycardia, ventricular tachycardia, > 2 s sinus arrest, second or third degree atrioventricular block and atrial fibrillation. Results: Mean age was  $47.3 \pm 10.5$  years; 64 were (72.7%) men, and 24 were (27.3%) women; mean body mass index was  $31.1 \pm 6.1$  kg/m<sup>2</sup>. Twenty-five patients were considered OSAS negative (mean AHI:  $2.5 \pm 1.2$ ) and 63 patients OSAS positive (mean AHI:  $40.3 \pm 19.4$ ) according to polysomnography records. Six patients in the OSAS-negative group had arrhythmia, whereas 29 patients in OSAS positive group had arrhythmia and the difference between the groups was statistically significant (P = 0.04). The prevalence of cardiac arrhythmia showed an increase parallel to the increase in AHI index in OSAS positive patients. Conclusion: We demonstrated an increased prevalence of cardiac arrhythmia in OSAS positive patients, parallel to the increase in the severity of OSAS.

**Key words:** Obstructive sleep apnea syndrome, cardiac arrhythmia, polysomnography

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