

CHARACTERISTICS OF ARTERIAL PRESSURE WAVEFORMS AND HEMODYNAMICS IN PATIENTS WITH SEVERE OBSTRUCTIVE SLEEP APNEA SYNDROME AND TREATED HYPERTENSION

Magdalena Kostrzewska, MD, PhD^{a,*}; Marcin Grabicki, MD, PhD^{a,*}; Tomasz Piorunek, MD, PhD^a, Assoc. Prof.; Tomasz Krauze, PhD^b; Damian Skrypnik, MD, PhD^c; Halina Batura-Gabryel, MD, PhD^a, Prof.; Tomasz Trafas, MSc^a; Paweł Bogdański, MD, PhD^c, Prof.; Andrzej Wykrętowicz, MD, PhD^b, Prof.; Przemysław Guzik, MD, PhD^b, Prof.

a) Department of Pulmonology, Allergology and Respiratory Oncology, Poznan University of Medical Sciences, Poznan, Poland

b) Department of Cardiology-Intensive Therapy, Poznan University of Medical Sciences, Poznan, Poland

c) Department of Treatment of Obesity, Metabolic Disorders and Clinical Dietetics, Poznan University of Medical Sciences, Poznan, Poland

Background and objective. Men with obstructive sleep apnea syndrome (OSAS) are usually obese, hypertensive and suffer from cardiovascular complications. We compared different features of peripheral and central arterial pressure waveforms, and hemodynamics between men with severe OSAS and optimally treated hypertension with those of healthy men.

Methods. Cardiac impedance, applanation tonometry, polysomnography were performed in 21 men with OSAS and blood pressure < 140/90 mmHg and 46 healthy age-matched men.

Results. Compared to the healthy men, the OSAS patients had a significantly higher body mass index (BMI; over 8 kg/m²) and presented significant differences in central arterial pressures and hemodynamic parameters. However, after adjustment for BMI using ANCOVA, the parameters characterizing arterial pressure waveforms and hemodynamic profiles of men with severe OSAS and controlled hypertension were similar to those of healthy men.

Conclusions. Obesity is the strongest determinant of abnormal blood pressure and hemodynamic abnormalities in men with severe OSAS and effectively treated hypertension. We propose that obesity has a much stronger influence on cardiovascular function than commonly anticipated in men with severe OSAS.