WHICH IS MORE CORRELATED WITH HYPERTENSIVE ORGAN DAMAGE, SLEEP BLOOD PRESSURE ASSESSED BY SELF-MEASURED AT HOME OR AMBULATORY BLOOD PRESSURE MONITORING?: THE JAPAN MORNING SURGE-HOME BLOOD PRESSURE (J-HOP) STUDY

Sirisawat Wanthong, Tomoyuki Kabutoya, Satoshi Hoshide, Kazuomi Kario

To cite this article: Sirisawat Wanthong, Tomoyuki Kabutoya, Satoshi Hoshide, Kazuomi Kario (2018) WHICH IS MORE CORRELATED WITH HYPERTENSIVE ORGAN DAMAGE, SLEEP BLOOD PRESSURE ASSESSED BY SELF-MEASURED AT HOME OR AMBULATORY BLOOD PRESSURE MONITORING?: THE JAPAN MORNING SURGE-HOME BLOOD PRESSURE (J-HOP) STUDY, Artery Research 24:C, 64–64, DOI: https://doi.org/10.1016/j.artres.2018.10.010

To link to this article: https://doi.org/10.1016/j.artres.2018.10.010

Published online: 7 December 2019
ASSOCIATION OF PULSE WAVE VELOCITY AND BODY MASS INDEX IN HEALTHY MEXICAN POPULATION

Laboratory of Vascular Mechanics of the Institute of Experimental and Clinical Therapeutics, Physiology Department, University Center Of Health Sciences, Universidad De Guadalajara, USA

Rationale: Cardiovascular diseases represent the main cause of morbidity and mortality throughout the world (1). Arterial stiffness has shown to be an important predictor of cardiovascular events, and pulse wave velocity (PWV) is a marker of subclinical organ damage which can be measured by different methods, one of which is by means of the brachial ankle pulse wave velocity (baPWV) (2–3). On the other hand, obesity affects a large proportion of the population and is classified according to the body mass index (BMI). Increased BMI is associated with hypertension and increased mortality (4).

Objective: Analyse the correlation between baPWV and BMI in healthy subjects.

Methodology: An analytical cross-sectional study was carried out in healthy age 18–70 year old subjects, who attended the INTEC, (192 women, 189 men). BMI was calculated with the formula Weight (kg) /Height (m)^2, baPWV was measured with the VP1000 plus model BP-203RPE III. Correlations were determined with Spearman’s Rho, differences between groups were determined using Anova with post hoc test.

Results: A population of 381 subjects was analyzed, a significant correlation was found between baPWV and BMI (r = 0.322, p = 0.001). Dividing patients according to the degree of BMI a significant difference was found in the baPWV between normal weight-overweight groups (10.63 ± 1.68, 11.57 ± 1.9 (p = 0.001), normal weight — class I obesity (10.63 ± 1.68, 12.21 ± 1.73 (p = 0.001) and normal weight — class II (10.63 ± 1.68, 12.27 ± 2.39 (p = 0.007).

Conclusion: A direct correlation between baPWV and the body mass index was found. The greater increase of the baPWV was seen between the groups of normal weight and overweight / Class I obesity/ Class II obesity. Subjects with overweight and grade I obesity represent a group with a significant increase in arterial stiffness which should receive special attention in order to decrease the development of cardiovascular disease.

METHODS AND RESULTS

Results were found between baPWV and BMI (r = 0.322, p = 0.001). Dividing patients according to the degree of BMI a significant difference was found in the baPWV between normal weight-overweight groups (10.63 ± 1.68, 11.57 ± 1.9 (p = 0.001), normal weight — class I obesity (10.63 ± 1.68, 12.21 ± 1.73 (p = 0.001) and normal weight — class II (10.63 ± 1.68, 12.27 ± 2.39 (p = 0.007).

Conclusions: Sleep SBP measured by HBPM was more closely associated with baPWV, LVMI and IMT than sleep SBP measured by ABPM.