P7.8: THE RELATIONSHIP BETWEEN RENAL AND CEREBRAL BLOOD FLOW PULSATILITY

Laura Watkeys*, James Pearson, Barry McDonnell


To link to this article: https://doi.org/10.1016/j.artres.2015.10.311

Published online: 7 December 2019
Abstracts

Electrocardiology and Hypertension, Krakow, Poland

1 Jagiellonian University Medical College, Department of Internal Medicine and Gerontology, Krakow, Poland

Objective: Morning blood pressure (BP) surge is considered to be an independent risk factor for cardiovascular diseases. On the other hand, there is increasing evidence that central systolic pressure (CSP) is stronger correlated with target organ damage and cardiovascular events than peripheral systolic pressure. Therefore, the aim of the study was to evaluate the difference in morning central BP surge between men and women.

Methods: Fifty patients with never treated hypertension (age 40.4 ± 11.5 years, 35 men) and 50 normotensive subjects (age 38.3 ± 12.0 years, 35 men) were included into the study. Applanation tonometry of the radial artery and ‘n-point forward moving average’ method have been used to derive 24-h CSP (BPro, HeatStats). The sleep-through morning surge (MS) was the difference between the morning pressure and the lowest nighttime BP. The preawakening MS was the difference between the morning BP and the preawakening BP (the average BP during the 2 hours before awakening).

Results: The 24-hour CSP was 129.5 ± 10.6 mmHg in hypertensives and 110.5 ± 12.4 mmHg in normotensives (p < 0.05). The average daytime and nighttime CSP was 133.8 ± 11.1 mmHg and 123.1 ± 11.1 mmHg (p < 0.05) in hypertensives whereas 114.3 ± 13.7 mmHg and 104.8 ± 11.7 (p < 0.05) in normotensives, respectively. The values of morning BP surge are presented in the table.

Conclusion: Central sleep-through MS and preawakening MS are similar in men and women.

P7.46

Ruben Baker |

Men (n = 35) Women (n = 15) p

HYPERTENSIVES

Central sleep-through MS (mmHg) 19.38 ± 5.79 16.74 ± 5.99 0.24
Peripheral sleep-through MS (mmHg) 13.21 ± 1.76 10.02 ± 4.58 0.15
NORMOTENSIVES

Central sleep-through MS (mmHg) 16.21 ± 1.90 20.56 ± 20.30 0.28
Peripheral sleep-through MS (mmHg) 9.76 ± 0.7 11.73 ± 21.4 0.07

P7.5

RELATIONSHIPS BETWEEN 24 HOURS URINARY CORTISOL METABOLITES AND STRUCTURAL CARDIAC AND ARTERIAL INDICES IN PEOPLE WITH OR AT RISK OF TYPE 2 DIABETES

Charlotte Mills 1-3, Luca Facconti 1, Hannah Crickmore 1, Fahad Iqbal 1, Anne Riss 1, Doina Bobeica 2, Lea Ghatatore 2, Virginia Govoni 1-2, Maria-Linda Casagrande 1, Andrew Webb 3, Norman Taylor 1, Kenneth Cruickshank 1-1

1 King’s College London, Division of Diabetes and Nutritional Sciences, London, UK
2 King’s College London, British Heart Foundation Centre, Cardiovascular Division, Department of Clinical Pharmacology, London, UK
3 Guy’s and St Thomas’ NHS Foundation Trust, NIHR Biomedical Research Centre, London, UK
4 King’s College Hospital, Vlaphat, Department of Clinical Biochemistry, London, UK

Objective: To assess if 24 h urinary cortisol metabolite (UCM) profiles are related to structural cardiac and arterial parameters in those with or at risk of Type 2 diabetes mellitus (T2DM).

Design and method: 32 participants, 25-77 years, eGFR > 45 mL/min and no serious illness. Urine was collected over 24 hours. 2D echocardiography and arterial stiffness measures [aortic pulse wave velocity (aPWV) by Arteriograph and carotio-ankle vascular index (CAV) by VaSera] were performed on the collection day. Steroids were extracted from urine and hydrolysed; derivatives were analysed by GC-MS.

Results: Seven UCMs were quantified [tetrahydrocortisol (THF), allo-tetrahydrocortisol (α-THF), tetrahydrocortione (THE), α-cortol (α-cortol), β-cortol (β-cortol), α-cortolone (α-cortolone), β-cortolone (β-cortolone)]. Left ventricular mass index (LVMI) correlated positively with 24h cortisol:cortolone metabolites (THF:α-cortolone > α-cortolone:α-cortolone) and negatively with α:β metabolites (α-coclo:α-cortolone). When indexed for body surface area (BSA) and height (r = 0.37, 0.48 and r = 0.34, 0.49 respectively). Further, there was a positive relationship between LVMI and THF:THE (r = 0.35). aPWV but not CAVi was also related to 24h cortisol:cortolone metabolites (r = 0.45). All p < 0.05.

Regression analysis including age, gender, systolic blood pressure (SBP), arterial stiffness (aPWV or CAVi) and body mass index (BMI; only for RWT), showed an independent association between THF:THE and LVMIWS, and LVMIheight and cortisol:cortolone metabolites with LVMIWS, p < 0.02.