P14.04: THE ENDOTHELIAL FUNCTION AND THE INTIMAL-MEDIAL THICKNESS IN PATIENTS WITH CORONARY ARTERY DISEASE WITH THE METABOLIC SYNDROME

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To link to this article: https://doi.org/10.1016/j.artres.2010.10.145

Published online: 21 December 2019
Investigation should be done to clarify this question.

acted as stressor agent on persons not familiar with such breathing. Further compliance in our experimental settings. We suspect that paced breathing Our results unexpectedly showed that sympathetic tone increased during slow breathing. We determined the area under the power spectrum formed jointly in both groups revealed that Ve significantly correlated with the level of cholesterol and LDL-cholesterol. Functional changes of endothelial function have negative correlation with the lipid profile.

Increased arterial stiffness assessed using pulse wave velocity (PWV) measurements is a predictor of cardiovascular risk in adults. There are limited data on PWV and its determinants in young people. Objective: To compare PWV and its association with gender, blood pressure (BP) and anthropometric parameters in healthy high school and university students. Methods: First group - 42 high school students (22 males) 14-15 years (14.8±0.3 years), the second group - 38 university students (18 males) aged 17-21 years (18.8±1.1 years). To study velocities in elastic (Ve) and muscular (Vm) arteries sphygmomanometry was performed on carotid, femoral and radial arteries.

Results: Older students had higher BMI 22.2±2.8 vs 20.6±2.05 kg/ m² (p=0.002) and trend to higher systolic BP (126.2±16.6 vs 119.6±10.2 mm Hg; p=0.07). No difference between groups in Vm was found (7.28±1.18 m/s in 1st group; 7.09±1.14 m/s in 2nd). Ve was higher in older group (6.24±1.06 vs 5.57±0.67 m/s in younger group; p=0.001). No gender difference was found in Ve or Vm in either group. Correlation analysis performed jointly in both groups revealed that Ve significantly correlated with age (r=0.26), body mass index (BMI) (r=0.34), systolic (r=0.29), diastolic (r=0.30) and mean BP (r=0.33). Correlation U-test showed significant difference between groups with higher trend with height (r=0.28). Pulse BP did not correlated with Ve no Vm. Multiple regression found only BMI as independent factor associated with Ve (β=0.27; p=0.04).

Conclusions: Elastic type arteries stiffness is increased with age in young people with no gender difference. It depends on BP levels and BMI. The main determinant of Ve is BMI.

SLOW BREATHING AND FINGER ARTERY COMPLIANCE

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It is known that 0.1Hz paced breathing reduces blood pressure, but the mechanisms involved in this phenomenon are not completely clear. The aim of our study was to evaluate the changes of finger artery compliance associated with this breathing pattern. We measured ECG, arterial pressure and finger artery compliance in 21 young adults at rest and during slow breathing. Values obtained were compared by paired t-test. The finger artery compliance measurements based on the comparison of two oscillometric signals, one from Finapres and another from the cuff attached to the middle finger of the same hand, measuring the finger volume changes. A spectral analysis of R-R intervals was done by autoregression method to determine the changes of autonomic tone during slow breathing. We determined the area under the power spectrum curves over high frequency (HF) band (0.15-0.4 Hz), low frequency (LF) band (0.04-0.15 Hz) and very low frequency (VLF) band (<0.04 Hz).

Our results show that finger artery compliance decreased from (1.04±0.12 to 0.50±0.06), HF component of HRV decreased (from 58.6±5.31 to 26.59±3.81) and percent of LF component increased (from 38.15±4.23 to 69.58±3.43) during slow breathing. All differences were statistically significant (p<0.001).

Our results unexpectedly showed that sympathetic tone increased during slow breathing. This could be the reason for diminished finger artery compliance in our experimental settings. We suspect that paced breathing acted as stressor agent on persons not familiar with such breathing. Further investigation should be done to clarify this question.