



P36 Leukocyte Telomere Length is Inversely Associated with Wave Reflection in 566 Normotensive and Never-treated Hypertensive Subjects

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ABSTRACT

Background: Telomeres are short segments in chromosome ends, the length of which is reduced during cell life-cycles. We examined the association of leukocyte telomere length and short telomere proportion with hemodynamic variables.

Methods: Altogether 566 subjects (279 women and 287 men) without cardiovascular disease and medications with direct cardiovascular influences were subjected supine recordings for 5 minutes. Haemodynamics were captured using continuous tonometric pulse wave analysis and whole-body impedance cardiography. The analyses were adjusted for age, body mass index (BMI), alcohol use, smoking, plasma chemistry, and estimated glomerular filtration rate (eGFR).

Results: In univariate analyses, leukocyte telomere length correlated with age, BMI, eGFR, aortic blood pressure, augmentation index, pulse wave velocity, and systemic vascular resistance ($p < 0.05$ for all). Short telomere proportion correlated with age, BMI, eGFR, aortic systolic blood pressure, augmentation index, and pulse wave velocity ($p < 0.05$ for all). In linear regression analyses of all hemodynamic variables, leukocyte telomere length was only an independent explanatory factor for augmentation index (Beta -0.006 , $p = 0.032$), while short telomere proportion was not an explanatory factor for any of the hemodynamic variables, in contrast to age, BMI and several cardiovascular risk factors.

Conclusion: Augmentation index was predominantly related with chronological aging, but also with leukocyte telomere length, suggesting that this variable of central wave reflection is a moderate marker of vascular biological aging.

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