International Journal of Gerontology 14 (2020) 1
https://doi.org/10.6890/IJGE.202002_14(1).EC

International Journal of Gerontology

journal homepage: http://www.sgecm.org.tw/ijge/

Editorial Comment

More Evidence of Association between Leptin and Arterial Stiffness in Elderly

Leptin, a hormone mainly secreted by white adipose tissue, is implicated in the control of food intake. Its action on the hypothalamus leading to the suppression of appetite, and thus leptin is known as "anorexigenic" hormone.[1] Hyperleptinemia has been implicated in metabolic and homeostatic factors involved in obesity, insulin resistance, type 2 diabetes mellitus, hypertension, chronic kidney disease, cardiovascular and cerebrovascular disease.[2] The presumed mechanism of actions of leptin associated with vascular risk factors included stimulation of inflammatory reaction, endothelial oxidative stress, atherogenesis and thrombosis.[1]

For decades, investigators recognized the value of arterial stiffness in prediction of ongoing and future cardiovascular disease. Carotid–femoral pulse wave velocity (cfPWV), a convenient and noninvasive measurement by applanation tonometry, mechanotransducer and Doppler signals, has been recommended as a gold standard of arterial stiffness.[3] This surrogate of arterial stiffness has been validated for its prognostic significance of cardiovascular outcomes and further recommended by the European Society of Hypertension as a clinical biomarker for cardiovascular risk stratification in patients with hypertension.[4]

A cross-sectional analysis of data from the Baltimore Longitudinal Study of Aging suggested that leptin was significantly associated with cfPWV.[5] In this issue of the journal, Yeh et al. reported the relationship between leptin concentration and carotid-femoral pulse wave velocity (cfPWV), focused in geriatric people.[6] Fasting serum leptin levels significantly increased the adjusted risk of cfPWV values and are identified as an independent predictor of arterial stiffness in geriatric adults after adjusting for other confounders. This article provided more evidence of positive correlation between serum leptin levels and the development of arterial stiffness in elderly. Further research is needed to establish the causation relationships and to evaluate if leptin as a potential therapeutic target.

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