SESSION 3280 (POSTER)

CARDIOVASCULAR DISEASE

AUGMENTATION INDEX IS A PREDICTOR OF CEREBRAL BLOOD FLOW ACROSS GLOBAL GRAY MATTER IN THE ELDERLY

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Arterial stiffness and blood pressure (BP) are contributors to cognitive decline and dementia. Lower global cerebral blood flow (CBF) is one of the earliest manifestations of biological alterations linked to cognitive decline, nevertheless the best cardiovascular predictor of CBF in gray-matter (CBF-GM) remains to be identified. Our objective is to determine the best predictor of CBF-GM levels amongst cardiovascular parameters. Eigthy-four healthy participants between 60-80 years-old were evaluated. The measured parameters for arterial stiffness were the carotid-femoral pulse wave velocity (cf-PWV) and the augmentation index (Aix), measured by applanation tonometry (SphygmoCor). Mean systolic BP (SBP) was monitored over 24-hours and analyzed following Hypertension-Canada's guidelines(2018). The coefficient of variation for 24-hours SBP was calculated by dividing the standard deviation by the mean. Resting CBF-GM was quantified from pseudocontinuous arterial-spin-labeling using Neurolens 2.0(pcASL), and acquired on a 3T scanner (MAGNETOM Prisma-Fit). We created multiple linear regression models for each independent variable (cf-PWV, Aix, mean-SBP in 24 hours and the coefficient of variation of 24-hours SBP) using age, sex, schooling and body mass index as covariates. Multiple linear regression models demonstrated that two independent variables could predict CBF-GM levels: a)PWV (p=0.010) and b)Aix (p=0.006). In this cohort, we demonstrated that while PWV and Aix are both predictors of CBF-GM levels, it is Aix which has the highest predictive value and could be a useful tool to understand the interplay between lower CBF-GM and arterial stiffness. These results also indicate that Aix may be a good therapeutic target to preserve brain health and cognition.

ASSOCIATION BETWEEN BLOOD PRESSURE AND COGNITIVE FUNCTION OF COMMUNITY-DWELLING OLDEST OLD IN OKINAWA, JAPAN

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Background: Adults 80 years and older are the fastest-growing segment of the Japanese population and face a high risk of cognitive decline. There are some evidences connecting hypertension to cognitive decline. In mid-life hypertension is known to have influence the cognitive decline in older age. However, a few study have examined the association between hypertension or vascular stiffness and cognitive function among elderly over 80 years old. We analyzed the associations between vascular stiffness and cognitive function among relatively healthy community-dwelling non-demented oldest old. Method: Data came from the Keys to Optimal Cognitive Aging (KOCOA) study; an ongoing cohort of relatively healthy volunteers aged over 80 years old, living in Okinawa, Japan. In 2017, 105 non-demented (Clinical Dementia Rating < 1) subjects completed three kinds of examination for vascular function (75 % female, mean age (SD) 84.0 (3.0)). We categorized subjects into low and high cognitive function groups using Montreal Cognitive Assessment (MoCA) (25/26 as a cutpoint). Logistic regression models were used to examine the association between cognitive and vascular functions. Results: Narrower pulse pressure, an indicator of lower arterial stiffness, was associated with better cognitive function among subjects, after adjusting for gender, age, and education ($p \leqq 0.05$), although systolic and diastolic blood pressure were not. Conclusion: Our findings suggest that narrower pulse pressure is related with cognitive preservation. The present study supports the hypothesis that lower arterial stiffness is related with better cognitive function even among the oldest old.

EFFECT OF INFLUENZA VACCINE ON TWEAK LEVELS IN THE ELDERLY: IMPLICATION IN CARDIOVASCULAR PROTECTION

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Substantial evidence suggests a protective effect of annual influenza immunization on cardiovascular diseases (CVD). The inflammatory mediator TNF-related weak