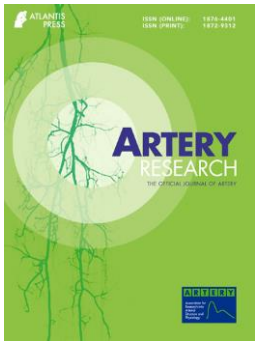

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PO-25: LEFT VENTRICULAR END-SYSTOLIC ELASTANCE (ECAVI) ESTIMATED WITH CAVI

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Results: (See table) There were significant sex differences in brachial SBP, brachial DBP, aortic DBP and aortic MAP with higher values in males. ($p<0.05$). However, there were no statistically significant sex differences in wave separation variables or aortic SBP during acute inflammation, but acute inflammation decrease brachial DBP, aortic SBP, and aortic MAP in all subjects combined, and reflected pulse pressure approached a decline in the entire cohort ($p=0.06$).
Conclusions: The results suggest that blood pressure, forward and reflected pulse wave pressure exhibited similar responses in males and females during acute inflammation.

PO-25
LEFT VENTRICULAR END-SYSTOLIC ELASTANCE (ECAVI) ESTIMATED WITH CAVI

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Objective: Left ventricular end-systolic elastance (Ecavi) was estimated using the parameters measured for calculating cardio-ankle vascular index (CAVI).
Methods: Participants comprised 4,954 healthy individuals (2,679 males, 2,275 females) who visited the health examination center at Fukui-ken Saiseikai Hospital between July 2007 and November 2013. Left ventricular-arterial coupling (Ees/Ea) was obtained from end-systolic arterial pressure (Pes), end-diastolic arterial pressure (Pd), pre-ejection period (PEP) and ejection time (ET), all of which were obtained as parameters measured on a vascular screening system (VaSera VS-1500N; Fukuda Denshi, Tokyo, Japan) based on the non-invasive method described by Hayashi et al.[(1)]. Mean arterial pressure (Pm) was assumed to be equal to Pes for the calculation of Ees/Ea[(2)] in this study. Ees/Ea was assumed as the balance of stiffness between the end-systolic left ventricle and aorta. Left ventricular end-systolic elastance estimated with CAVI was defined as CAVI × Ees/Ea.
Results: The population showed the same results as the healthy group recruited in the user's manual of the vascular screening system (Fig. 1); namely, normal range of CAVI was between 6.3 and 8.7, CAVI was higher in males than in females, and CAVI was slightly increased in the high aged group. Mean and standard deviation of Ecavi were 9.3 and 4.5, respectively, in all age groups, and in both males and females (Fig. 2).
Conclusion: The original left ventricular end-systolic elastance (Ees) could be estimated as Ecavi, representing CAVI × Ees/Ea, using a non-invasive vascular screening system.
References:
1. Hayashi K. et al., Anesthesiology, 2000;92:1769-76.
2. Takaku A. et al., Proc of 11th Annual Meeting Tokai-Hokuriku Branch JSA, 2013;11:Q01-1.

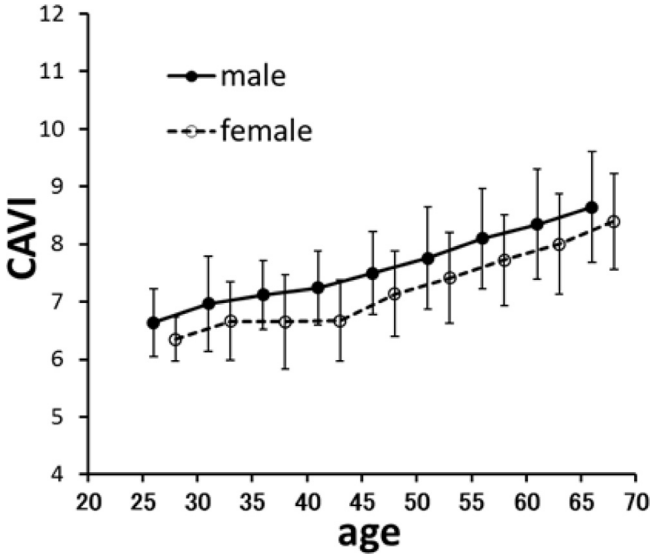

Figure. 1 Average of CAVI in Healthy Group.

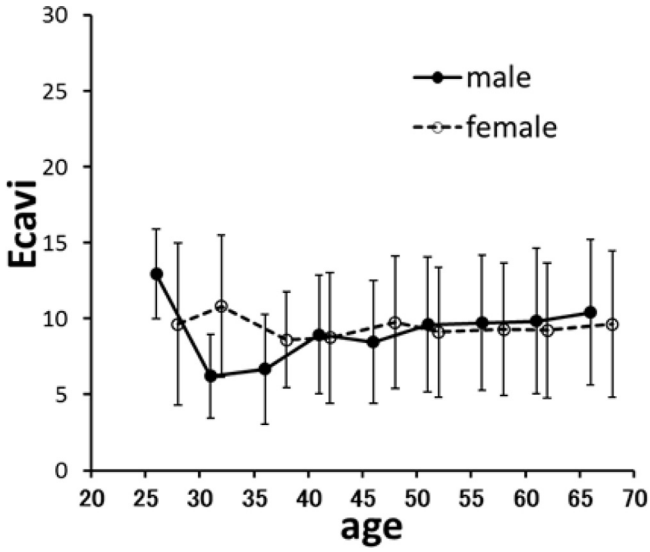

Figure. 2 Average of Ecavi in Healthy Group.

PO-26
THE IMPLICATIONS OF POOR SLEEP QUALITY ON ARTERIAL HEALTH IN PERSONS WITH MULTIPLE SCLEROSIS

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Objective: Multiple sclerosis (MS) is a chronic, autoimmune disease that is associated with increased risk of cardiovascular disease (CVD) when compared to the general population. Approximately 47% of patients with MS have reported poor sleep quality. Evidence supports an association between poor sleep and increased CVD risk. Augmentation index (AIx) is a marker of arterial health. The purpose was to examine the association between sleep quality and arterial health in patients with MS.
Methods: Thirty two patients with MS (Age: Mean ± SD = 47.6 ± 10.6 yrs) and 32 matched controls (47.6 ± 11.3 yrs) were administered the Pittsburgh Sleep Quality Index (PSQI) to assess self-reported sleep quality. Subjects having a global score >5 were classified as "poor sleepers." Applanation tonometry was performed on the radial artery to obtain arterial pressure waveforms.
Results: Twenty MS subjects and 7 control subjects were classified as "poor sleepers." Statistical analysis confirmed that "poor sleep" was associated with higher AIx (16.2 ± 2.3 vs 23.7± 2.9, $p<0.05$) regardless of having MS. Among those with MS, AIx was significantly higher in the subjects who reported poor sleep quality when compared with those who reported good sleep quality (15.7 ±3.8 vs 27.1 ± 3.0, $p<0.05$).
Conclusions: Poor sleep quality has a negative effect on arterial health overall and in those with MS. Additionally, those with MS who report poor sleep quality have an amplified negative arterial outcome compared to patients with MS with good sleep quality and healthy controls.

PO-27
HIGHER CENTRAL AUGMENTATION PRESSURE/INDEX IS ASSOCIATED WITH TENSION-TYPE HEADACHE BUT NOT MIGRAINE IN MIDDLE-AGED/OLDER OBESE HUMANS

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