

SUPPLEMENTAL MATERIAL

Relations Between Aortic Stiffness and Left Ventricular Structure and Function in Older Participants in the Age, Gene/Environment Susceptibility—Reykjavik Study

Supplemental Methods

The oblique coronal scan of the aortic root was obtained with a 3.2 ms repetition time, 1.4 ms echo time, and 8 mm slice thickness with 30 phases per cardiac cycle. The imaging matrix was 224x224 with a reconstruction matrix of 256x256 and a 1.41 mm average pixel size.

The first cross-sectional aortic scan was taken using FIESTA sequences with a 4.3 ms repetition time, 1.9 ms echo time, and 6 mm slice thickness with 30 phases per cardiac cycle. Early in the study, images were obtained using 256x256 imaging and reconstruction matrices in all participants. The imaging matrix was later adjusted to 352x352 (reconstruction matrix 512x512) for all participants who were able to hold their breath long enough to obtain the higher resolution sequence. Average pixel size was 0.66 mm for the 512x512 images and 1.33 mm for the 256x256 images. The second cross-sectional aortic acquisition was obtained as a single 6 mm slice, using an ECG-triggered double inversion recovery fast spin echo sequence with 52 ms echo time, gated at end-diastole with one acquisition at every other heartbeat to prevent slow-flow artifacts. The imaging matrix was 256x192 with a reconstructed matrix of 512x512 and a 1.41 mm average pixel size.

The cardiac 4-chamber and 2-chamber scans were obtained using FIESTA sequences with a repetition time of 3.2 ms for the 4-chamber and 3.1 ms for the 2-chamber, echo time of 1.4 ms for the 4-chamber and 1.3 ms for the 2-chamber, and 8 mm slice thickness with 30 phases per cardiac cycle. The imaging matrix was 224x224 with a reconstructed matrix of 256x256 and a 1.41 mm average pixel size.

Supplemental Table. Included vs. Excluded Participants

Variables	Included	Excluded	P
Sample size	347	255	
Women, n (%)	189 (55)	150 (59)	0.3
Age range, years	72 to 91	72 to 97	0.1
Height, cm	169 ± 9	168 ± 10	0.3
Weight, kg	77 ± 14	77 ± 15	0.9
Body surface area, m ²	1.9 ± 0.2	1.9 ± 0.2	0.8
Body mass index, kg/m ²	27 ± 4	27 ± 4	0.4
Heart rate, min ⁻¹	63 ± 9	65 ± 11	0.003
Brachial pressure, mm Hg			
Systolic	141 ± 19	143 ± 20	0.3
Diastolic	64 ± 9	66 ± 11	0.046
Mean	94 ± 11	96 ± 13	0.1
Pulse pressure	77 ± 18	77 ± 19	0.6
Carotid pressure, mm Hg			
Peak	142 ± 24	143 ± 27	0.5
End-systolic	105 ± 15	108 ± 18	0.1
Augmentation index	8 ± 14	10 ± 15	0.1
Fasting glucose, mmol/L	5.6 ± 0.9	5.6 ± 0.9	0.8
Total cholesterol, mmol/L	5.3 ± 1.1	5.3 ± 1.2	1.0
HDL cholesterol, mmol/L	1.6 ± 0.4	1.6 ± 0.4	0.6
Triglycerides, mmol/L	1.2 ± 0.5	1.2 ± 0.5	0.6
Medical history, n (%)			
Diabetes	36 (10)	24 (9)	0.8
Treated hypertension	243 (70)	199 (78)	0.032
Statin use	137 (40)	101 (40)	1.0
Cardiovascular disease	72 (21)	83 (33)	0.002
Current smoker	24 (7)	20 (8)	0.8

Included versus excluded participant comparisons were performed using an independent-samples t-test for continuous variables and a cross-tab for dichotomous medical history variables. HDL, high density lipoprotein