ONLINE SUPPLEMENT

Reduced Ascending Aortic Strain and Distensibility: Earliest Manifestations of Vascular Aging in Humans

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Figures and Supporting Information

Figure S1: Aortic Distensibility assessment with MRI

Figure S2: Aortic PWV assessment with MRI

Centerline measurement of the transit distance in the aortic arch (D) on an MRI black-blood sagittal oblique view.
A progressive increase in peripheral systolic blood pressure (SBP) was observed with advancing age. Concomitantly, an increase in peripheral diastolic blood pressure (DBP) with age until the 5th decade was observed, followed by a drop, explaining the observed rise of peripheral pulse pressure (PP) among individuals in older age groups. Central SBP increased with advancing age and central DBP also increased but only until the 5th decade, after which it decreased progressively. This resulted in a relatively constant central PP during the 2nd and 3rd decades, increasing markedly only after the 5th decade (see Figure S3). However, the relative increase from the 2nd to the 7th decade was notably higher for central PP (71%) compared to peripheral PP (37%). Moreover, these age related differences between central and peripheral pressures were not linear. Indeed, differences between central and peripheral SBP, DBP and PP were found to be greater in younger (<50) than in older (≥50) individuals. Subsequently, the ratio of central to peripheral PP was 21% in the 2nd decade compared to 10% in the 7th decade (Table 1 in the main manuscript). Central PP was significantly more sensitive to the effects of aging than peripheral PP especially in individuals <50 years where peripheral pressures overestimated central pressures to a greater extent.
Figure S4: Augmentation Index by Decades of Age