[OR] for slowness were 0.55 (95% confidence interval [CI], 0.39-0.77) for those with intermediate level of CVH, and 0.28 (95% CI, 0.17-0.45) for those with ideal level of CVH after adjustment for potential confounders. Among ideal CVH components, behavioral CVH score (OR 0.65, 95% CI 0.58-0.74) was significantly associated with slowness vs. the biological CVH score (OR 0.95, 95% CI 0.84-1.07). This study indicates that ideal CVH is significantly associated with a lower risk of slowness in community-dwelling older adults. A better CVH may help prevent slowness.

INVESTIGATION OF ROLL-OVER CHARACTERISTICS IN HEALTHY OLD INDIVIDUALS AND PATIENTS WITH PERIPHERAL ARTERY DISEASE

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Atherosclerotic blockages in the leg arteries, cause leg pain with ambulation (called claudication), impair gait and substantially reduce the walking ability of patients with peripheral artery disease (PAD). Ankle-foot orthoses are being developed and applied so patients can walk more and with less pain. Roll-over shape (ROS) is a potential design objective for such assistive devices. In the proposed work, we study roll-over characteristics in patients with PAD and healthy older subjects. Gait data of ten healthy older individuals (Age: 72.8 ± 5.5 years) and twenty patients with PAD (Age: 64.1 ± 6.6 years) were collected at self-selected walking speed. In patients with PAD, gait data were collected before the onset of pain and after claudication pain was induced. To generate ROS, the center of pressure data was transformed to the shank-based coordinate system and circular arcs were fit using an optimization program in MATLAB. Independent t-tests with Bonferroni corrections were used to separately compare roll-over radius differences ($p<0.05$) between healthy older to both walking conditions in patients with PAD. The mean roll-over radius was not significantly different between healthy older vs PAD pain-free ($p=0.468$) or PAD pain-induced ($p=0.289$) walking conditions. Our results indicate invariance of ROS radius in patients with PAD, which is consistent with previous literature showing general invariance of ROS in healthy young individuals. Previous biomechanical studies show gait kinematics and kinetics are more affected by PAD than by age. Future studies should focus on the potential adaptive mechanisms in patients with PAD achieving invariant ROS.

LONG LIFE FAMILY STUDY SHOWS REDUCED CORONARY ARTERY DISEASE DESPITE HIGH POLYGENIC HAZARD SCORES

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Polygenic hazard scores (PHS) for coronary artery disease (CAD) quantify individuals with age-specific genetic risk for CAD. We evaluated how well the PHS predict age at onset of CAD in the Long Life Family Study (LLFS; families selected for exceptional longevity), compared to the Family Heart Study (FamHS; random families and high CAD-risk families). LLFS contains 4572 European ancestry (EA) individuals from 581 families (age: 74.0 ± 14.3, range: 22-110 years). FamHS Random has 1806 EA individuals from 454 families (age: 56.2 ± 13.5, range: 22-91 years), while FamHS High CAD-risk has 2301 EA individuals from 553 families (age: 53.2 ± 12.8, range: 21-93 years). We generated the PHS from 176 published SNPs from GWAS for CAD ($p< 5.0 \times 10\text{-}8$, $r2< 0.2$). In each of the extremes of the CAD PHS distributions (75%), Kaplan-Meier method showed that the LLFS presented significant delayed age at onset of CAD compared to FamHS (random and High CAD-risk: $P<0.0001$). A Cox proportional hazards regression model accounting for CAD age at onset, using family bootstrap ($N= 1000$) to correct for family relatedness, replicated these results. For example, in the top-25% CAD-PHS when comparing to FamHS high-risk, the LLFS CAD hazards ratio was 0.127 (95% CI: 0.099, 0.164). Our findings suggest that, while PHS captured some of the risk of CAD in LLFS, part of the predisposition remains to be determined. Other relevant factors, including additional genetic discoveries and lifestyle-environment influences are needed to fully determine CAD risk in extreme samples.

SYSTEMATIC REVIEW OF GUIDELINES ON ANTIHYPERTENSIVE TREATMENT IN OLDER ADULTS: SPRINTING TO MORE HETEROGENEITY?

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Clinical trials have demonstrated that antihypertensive treatment (AHT) in older adults is beneficial. Longitudinal studies, in contrast, have shown that low blood pressure is associated with higher all-cause mortality, especially in frail older adults. Despite the high quality of the available evidence, its translation into clinical guidance for the heterogeneous older population is challenging. To give a systematic overview of blood pressure targets for older adults recommended in clinical guidelines, we searched PubMed, Embase, Emcare, and five guideline databases. We selected guidelines with numerical thresholds for the initiation or the goal of non-disease-specific AHT (January 2008-October 2019). Guidelines with advices concerning AHT in older adults were analyzed. We appraised the guideline quality with the AGREEII-instrument. Of the 44 guidelines containing a numerical threshold for the initiation or the goal of AHT, 33 (75%) provided recommendations concerning AHT for older adults. Nineteen advised a higher target of systolic blood pressure (SBP) for older adults in comparison with the middle-aged population and 3 more recent advised a lower target. Over half (19/33) recommended to treat hypertension in the oldest old to a SBP <150 mmHg, while others