Association between arterial stiffness and walking capacity in older adults.

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Author(s) Hinrichs, Timo; Portegijs, Erja; Rantanen, Taina; Infanger, Denis; Schmidt-Trucksäss, Arno; Karavirta, Laura
Author(s) at UniBasel Hinrichs, Timo ;
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Arterial stiffening - a process that is largely due to intimal thickening, collagen disposition or elastin fragmentation - significantly contributes to cardiovascular events and mortality. There is also some evidence that it may negatively affect physical function. This study aimed to evaluate whether arterial stiffness was associated with measures of walking capacity in a large, population-based sample of highly aged older adults.; A population-based sample of 910 community-dwelling adults (aged 75, 80, or 85ăyears) were investigated in a cross-sectional observational study. Pulse wave velocity (PWV), a surrogate marker of arterial stiffness, was estimated based on the oscillometric recording of pulse waves at the brachial artery site. Walking capacity was assessed by 10-meter habitual walking speed, 10-meter maximum walking speed, and six-minute walk distance. We used multiple linear regression models to examine possible associations between PWV and parameters of walking capacity, and we adjusted the models for sex, age, socioeconomic status, anthropometry, physician-diagnosed diseases, prescription medication, smoking history, physical activity, and mean arterial pressure. Continuous variables were modelled using restricted cubic splines to account for potential nonlinear associations.; Mean (standard deviation) 10-meter habitual walking speed, 10-meter maximum walking speed, and six-minute walk distance were 1.3 (0.2) m/s, 1.7 (0.4) m/s, and 413 (85) m, respectively. The fully adjusted regression models revealed no evidence for associations between PWV and parameters of walking capacity (all p-values >0.05).; Our results did not confirm previous findings suggesting a potential negative association between arterial stiffness and walking capacity in old age. Longitudinal studies, potentially taking additional confounders into account, are needed to disentangle the complex relationship between the two factors.

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