PULSE WAVE VELOCITY AS A MARKER OF CARDIOVASCULAR RISK IN AN ELDERLY POPULATION: A COMMUNITY-BASED STUDY

Poster Contributions
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Background: Carotid-femoral pulse wave velocity (PWV), a measure of arterial stiffness, has been shown in various populations to be a marker of risk for adverse cardiovascular (CV) outcomes. The value of PWV as an independent prognostic marker in an elderly population, in which age itself is a dominant risk factor, has not yet been delineated. We assessed the value of PWV as an independent predictive marker of CV events in a community-dwelling elderly population.

Methods: PWV was assessed using applanation tonometry in a subset of 279 randomly selected participants of a large population-based study. Adverse events including death or incident atrial fibrillation, myocardial infarction, heart failure and stroke were recorded during follow-up.

Results: During a mean follow-up of 5.6 years, there were 32 deaths and 34 non-fatal CV events. A PWV ≥12m/s was positively associated with death and incident CV events (P=0.029) (Figure). Age was a powerful predictor of death and incident CV events (HR 1.09; P< 0.0001). After multivariable adjustment for mean arterial pressure and traditional CV risk factors, PWV was predictive of CV events (HR 2.16; P=0.007) and all-cause mortality (HR 2.53; P =0.027). Additional adjustment for age attenuated the relationship for both CV events (HR 1.17; 95% CI: 0.69-1.98, P=0.56) and all cause mortality (HR 1.41; 95% CI: 0.67-2.97; P=0.36).

Conclusions: In this elderly population, PWV was a marker of CV risk that was independent of traditional cardiovascular risk factors, other than age.