

BIOMARKERS

**PREDICTORS OF CVD
RISK IN THE ELDERLY**

Increasing numbers of individuals are living into old age (≥ 80 years). According to Professor Athanase Benetos from the University Hospital of Nancy, France, “in robust old people, high blood pressure (BP) is a very good predictor of increased [cardiovascular] risk... However, this approach may not be valid in very elderly frail persons with several comorbidities. In these subjects, low BP levels may not be a sign of so-called ‘good arterial health’, but often of malnutrition and of comorbidities such as heart failure.” Accordingly, Professor Benetos and colleagues set up the PARTAGE study to investigate other potential markers of cardiovascular risk.

The study was set in 72 nursing homes in France and Italy. A total of 1,259 individuals were eligible for inclusion, and 89% consented to participate in the study. All but four individuals were included in the final analysis ($n=1,126$). The mean age of the study population was 88 ± 5 years and 78% were women.

During the 2-year follow-up, 247 individuals died and 228 participants experienced a major cardiovascular event. Investigators found that, compared with various measures of BP, the best predictor of mortality and major cardiovascular events was pulse pressure amplification (PPA)—the percentage increase in pulse pressure from the central (carotid) to the peripheral (brachial) arteries. Low PPA was significantly associated with both increased mortality ($P=0.003$) and major cardiovascular events ($P=0.004$). In a multivariate analysis model, a 10% increase in PPA was associated with a 24% and a 17% reduction in mortality and major cardiovascular events, respectively. By contrast, self-measurements of BP had poor prognostic value in this cohort of elderly individuals.

The researchers conclude that “in this frail population in which BP measurements may be misleading, PPA constitutes a noninvasive appropriate method for assessing prognosis”. Professor Benetos and colleagues now plan “to investigate the possibility of determining therapeutic strategies [for elderly individuals] not based on BP levels, but mainly on PPA levels”.

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Original article Benetos, A. *et al.* Mortality and cardiovascular events are best predicted by low central/peripheral pulse pressure amplification but not by high blood pressure levels in elderly nursing home subjects: the PARTAGE (Predictive Values of Blood Pressure and Arterial Stiffness in Institutionalized Very Aged Population) study. *J. Am. Coll. Cardiol.* doi:10.1016/j.jacc.2012.04.055