Dokumenttyp: journal article

Autor(en) des Beitrags:
Stamatelopoulos, Kimon; Sibbing, Dirk; Rallidis, Loukianos S; Georgiopoulos, Georgios; Stakos, Dimitrios; Braun, Siegmund; Gatsiou, Aikaterini; Sopova, Kateryna; Kotakos, Christos; Varounis, Christos; Tellis, Constantinos C; Kastritsis, Efstathios; Alevizaki, Maria; Tselepis, Alexandros D; Alexopoulos, Panagiotis; Laske, Christoph; Keller, Till; Kastrati, Adnan; Dimmeler, Stefanie; Zeiher, Andreas M; Stellos, Konstantinos

Titel des Beitrags:
Amyloid-beta (1-40) and the risk of death from cardiovascular causes in patients with coronary heart disease.

Abstract:
The amyloid beta peptide is the major protein constituent of neuritic plaques in Alzheimer disease and appears to play a central role in vascular inflammation pathophysiology. This study sought to determine the clinical value of amyloid-beta 1-40 (Abeta40) measurement in predicting cardiovascular (CV) mortality in patients with coronary heart disease (CHD) and arterial stiffness progression in young healthy subjects. Abeta40 was retrospectively measured in blood samples collected from 3 independent prospective cohorts and 2 case-control cohorts (total N = 1,464). Major adverse cardiac events (MACE) were assessed in the 2 prospective cohorts (n = 877) followed for a median of 4.4 years. To look at effects on subclinical disease, arterial stiffness was evaluated at baseline and after 5-year follow-up (n = 107) in young healthy subjects. The primary endpoint was the predictive value of Abeta40 for CV mortality and outcomes in patients with CHD. In Cox proportional hazards models adjusted for age, sex, estimated glomerular filtration rate, left ventricular ejection fraction,
high-sensitivity C-reactive protein, and high-sensitivity troponin T, Abeta40 independently predicted CV death and MACE in patients with CHD (p< 0.05 for all). After multivariate adjustment, Abeta40 levels conferred a substantial enhancement of net reclassification index and integrated discrimination improvement of individuals at risk in the total combined CHD cohort over the best predictive model. Further cohort-based analysis revealed that Abeta40 levels were significantly and independently associated with arterial stiffness progression, incident subclinical atherosclerosis, and incident CHD. Measuring blood levels of Abeta40 identified patients at high risk for CV death.