

Urinary Cortisol and Six-Year Risk of All-Cause and Cardiovascular Mortality

Context: The stress hormone cortisol has been linked with unfavorable cardiovascular risk factors, but longitudinal studies on cortisol predict cardiovascular mortality are largely absent.

Objective: The aim of this study was to examine whether urinary cortisol levels predict all-cause and cardiovascular mortality in a general population of older persons.

Design and Setting: Participants were part of the InCHIANTI study, a prospective cohort study in the older general population.

Participants: We studied 861 participants aged 65 yr and older.

Main Outcome Measure: Twenty-four-hour urinary cortisol levels were assessed at baseline. In the following 6 yr, all-cause mortality was ascertained from death certificates. Cardiovascular mortality included deaths due to ischemic heart disease and cerebrovascular disease.

Results: During a mean follow-up of 5.7 (SD = 1.2) yr, 183 persons died, of whom 41 died from cardiovascular disease. After adjusting for sociodemographics, health indicators, and baseline cardiovascular disease, urinary cortisol did not increase the risk of noncardiovascular mortality. Persons in the highest tertile of urinary cortisol had a five times increased risk of dying (hazard ratio = 5.00; 95% confidence interval = 2.02–12.37). This effect was found to be consistent across persons with and without baseline cardiovascular disease (p interaction = 0.78).

Conclusions: High cortisol levels strongly predict cardiovascular death among persons both with and without preexisting cardiovascular disease. The specific link with cardiovascular mortality, and not other causes of mortality, suggests that high cortisol levels might be part of the cardiovascular system.

Nicole Vogelzangs, Aartjan T. F. Beekman, Yuri Milaneschi, Stefania Bandinelli, Luigi Ferrucci and Brenda W. J. H. Penninx

Department of Psychiatry and EMGO Institute for Health and Care Research (N.V., A.T.F.B., B.W.J.H.P.), VU University Medical Center, Amsterdam, The Netherlands; Clinical Research Branch (Y.M., L.F.), National Institute on Aging, Baltimore, Maryland 21225; Geriatric Research Branch (Y.M.), 50125 Florence, Italy; and Geriatric Rehabilitation (S.B.), Azienda Sanitaria Firenze, 50122 Florence, Italy

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