

Association between resistin levels and all-cause and cardiovascular mortality: a new study and a systematic review and meta-analysis

Abstract:

Context: Studies concerning the association between circulating resistin, a pro-inflammatory pro-atherogenic adipokine, and mortality risk yielded conflicting results.

Objective: To investigate the association between resistin and both all-cause and cardiovascular (CV) mortality risk by 1) analyzing data from the Gargano Heart Study (GHS) prospective design (n=359 patients; 81 and 58 all-cause and CV deaths, respectively); 2) performing dose- risk meta-analyses of all published studies addressing such associations.

Data Source and Study Selection: MEDLINE search of studies reporting hazard ratios (HR) of circulating resistin for all-cause or CV mortality.

Data Extraction: Performed independently by two investigators, using a standardized data extraction sheet.

Data Synthesis: In GHS, adjusted HRs per 10 ng/ml resistin increment were 1.45 (95% CI: 1.10-1.92) and 1.52 (95% CI: 1.09-2.11) for all-cause and CV mortality, respectively. The dose-risk meta-analyses included 7 studies (n=4,119; 997 events) for all-cause mortality and 6 studies (n=4,187; 412 events) for CV mortality. Pooled HRs per 10 ng/ml resistin increment were 1.33 (95% CI: 1.03- 1.72, Q-test p for heterogeneity<0.001) and 1.16 (95% CI: 0.95-1.43, Q-test p for heterogeneity=0.047) for all-cause and CV mortality, respectively. At meta-regression analyses, study mean age explained 69% of all-cause mortality studies heterogeneity, while study mean BMI explained 100% heterogeneity of CV mortality studies. After the adjustment for such covariates, pooled HRs were 1.33 (95% CI: 1.12-1.57) and 1.11 (95% CI: 1.02-1.22) for all-cause and CV mortality, respectively.

Conclusions: Our results provided evidence for an association between circulating resistin and mortality risk.