

GFR in the normal range is related to coronary artery disease severity

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Introduction: Chronic renal failure (CRF) is an independent risk factor for coronary artery disease (CAD). Although microalbuminuria is associated with increased cardiovascular risk, little information exists concerning the association between renal function and CAD severity among individuals with renal function within normal limits. We evaluated the association between renal function, assessed by the estimated glomerular filtration rate (e-GFR), and CAD severity in a large number of individuals with normal e-GFR who underwent coronary angiography at the Tel-Aviv Sourasky Medical Center.

Methods: e-GFR was calculated according to the MDRD formula and the Cockcroft-Gault formula. CAD severity was assessed in a blinded manner by the interventional cardiologist who performed the angiography. Chronic renal failure is considered as GFR below 60; therefore, we included patients with e-GFR above 60.

Results: We prospectively analyzed 1811 consecutive patients with a mean age of 61.1 ± 10.6 . Strong correlation was found between CAD severity and e-GFR ($r = -0.14$, $p < 0.0001$), even after controlling for different inflammatory biomarkers (CRP, WBC) and metabolic (HDL, LDL, total cholesterol, triglycerides, HbA1c and glucose).

Conclusions: e-GFR is related to CAD severity even in patients without known kidney disease and with normal renal function.

