The association between gamma-glutamyl transferase (GGT) activity and outcome of patients with coronary artery disease (CAD) remains poorly investigated. The study included 5501 patients with CAD treated with percutaneous coronary intervention and GGT measurements available. The primary outcome was 3-year mortality. GGT activity tertiles were: 1st tertile (GGT=28.10U/L to 49.50U/L; n=1804) and 3rd tertile (GGT>49.50U/L; n=1831). There were 110 deaths in the 1st, 111 deaths in the 2nd and 216 deaths in the 3rd GGT tertile (mortality estimates, 7.1%, 7.2% and 13.9%; P<0.001). GGT was independently associated with the increased risk of 3-year all-cause mortality (adjusted hazard ratio [HR]=1.30, 95% confidence interval [CI] 1.18 to 1.44, P<0.001), cardiac (HR=1.21 [1.06-1.39], P=0.005) and non-cardiac (HR=1.42 [1.23-1.63], P<0.001) mortality (all risk estimates calculated per standard deviation increase in the log GGT activity). GGT improved prediction of all-cause (P<0.001) and non-cardiac mortality (P<0.001) but not cardiac mortality (P=0.155). In patients with CAD, elevated GGT activity is associated with increased risk of 3-year all-cause, cardiac and non-cardiac mortality. GGT provided incremental prognostic information on top of cardiovascular and metabolic risk factors for prediction of all-cause and non-cardiac mortality but not cardiac mortality.