The association between circulating levels of cardiac troponins and angiographic severity of coronary artery disease (CAD) has not been studied. We investigated whether there is an association between the level of high-sensitivity troponin T (hs-TnT) and angiographic severity of CAD and whether this association is independent of conventional risk factors, N-terminal pro-brain natriuretic peptide (NT-pro-BNP) and C-reactive protein (CRP). This case-control study included 904 patients with stable CAD (cases) and 412 patients with chest pain but without significant CAD on coronary angiogram (controls). Diagnosis of CAD was confirmed or excluded by coronary angiography. Cardiac TnT was measured with conventional and high-sensitivity assays in parallel using the same plasma sample. In patients with no CAD and in those with 1-, 2-, or 3-vessel disease, hs-TnT levels (median, twenty-fifth to seventy-fifth percentiles) were 0.005 μg/L (<0.003 to 0.009), 0.006 μg/L (0.003 to 0.011), 0.008 μg/L (0.004 to 0.013), and 0.010 μg/L (0.006 to 0.017), respectively (p<0.001). In multivariable analysis adjusting for cardiovascular risk factors and clinical variables including NT-pro-BNP and CRP, hs-TnT was an independent predictor of presence of CAD (adjusted odds ratio 1.30, 95% confidence interval 1.07 to 1.59, p = 0.009). In conclusion, in patients with stable and angiographically proved CAD, hs-TnT level is increased compared to subjects without CAD.
and correlates with angiographic atherosclerotic extent and burden. The association between increased levels of hs-TnT and presence of CAD was independent of traditional cardiovascular risk factors, NT-pro-BNP, and CRP.