Differences in prevalence, extent, severity, and prognosis of coronary artery disease among patients with and without diabetes undergoing coronary computed tomography angiography: results from 10,110 individuals from the CONFIRM (COronary CT Angiography E}

Abstract:

We examined the prevalence, extent, severity, and prognosis of coronary artery disease (CAD) in individuals with and without diabetes (DM) who are similar in CAD risk factors. We identified 23,643 consecutive individuals without known CAD undergoing coronary computed tomography angiography. A total of 3,370 DM individuals were propensity matched in a 1-to-2 fashion to 6,740 unique non-DM individuals. CAD was defined as none, nonobstructive (1-49% stenosis), or obstructive (≥50% stenosis). All-cause mortality was assessed by risk-adjusted Cox proportional hazards models. At a 2.2-year follow-up, 108 (3.2%) and 115 (1.7%) deaths occurred among DM and non-DM individuals, respectively. Compared with non-DM individuals, DM individuals possessed higher rates of obstructive CAD (37 vs. 27%) and lower rates of having normal arteries (28 vs. 36%) (P<0.0001). CAD extent was higher for DM versus non-DM individuals for obstructive one-vessel disease (19 vs.
14%), two-vessel disease (9 vs. 7%), and three-vessel disease (9 vs. 5%) (P < 0.0001 for comparison), with higher per-segment stenosis in the proximal and mid-segments of every coronary artery (P < 0.001 for all). Compared with non-DM individuals with no CAD, risk of mortality for DM individuals was higher for those with no CAD (hazard ratio 3.63 [95% CI 1.67-7.91]; P = 0.001), nonobstructive CAD (5.25 [2.56-10.8]; P < 0.001), one-vessel disease (6.39 [2.98-13.7]; P < 0.0001), two-vessel disease (12.33 [5.62-27.1]; P < 0.0001), and three-vessel disease (13.25 [6.15-28.6]; P < 0.0001). Compared with matched non-DM individuals, DM individuals possess higher prevalence, extent, and severity of CAD. At comparable levels of CAD, DM individuals experience higher risk of mortality compared with non-DM individuals.