

this information could help identify those who would benefit from CAC screening.

Original article Parikh NI *et al.* (2007) Parental occurrence of premature cardiovascular disease predicts increased coronary artery and abdominal aortic calcification in the Framingham offspring and third generation cohorts. *Circulation* **116**: 1473–1481

Diabetes increases risk of mortality in patients with acute coronary syndromes

Diabetes mellitus is a well-documented independent risk factor for the development of cardiovascular disease. The influence of diabetes on the outcomes of patients with acute coronary syndromes (ACS), however, is less clear. Using data pooled from 11 independent Thrombolysis in Myocardial Infarction Study Group trials, Donahoe and colleagues examined the effect of diabetes on mortality following ACS.

This study included 62,036 patients, 46,577 of whom had ST-segment elevation myocardial infarction (STEMI) and 15,459 of whom had non-STEMI. Diabetes mellitus was documented in 17.1% of the study cohort, and was significantly more prevalent among those with non-STEMI ($P < 0.001$).

At 30 days after presentation with STEMI or non-STEMI, mortality was significantly higher in patients with diabetes than in patients without this condition (STEMI 8.5% vs 5.4%; non-STEMI 2.1% vs 1.1%; $P < 0.001$ for both). When the data were adjusted for baseline characteristics, features of ACS presentation and ACS management, presence of diabetes was associated with a relatively higher incidence of death at 30 days in patients presenting with non-STEMI (odds ratio 1.78, 95% CI 1.24–2.56) than in patients presenting with STEMI (odds ratio 1.40, 95% CI 1.24–1.57). Mortality at 1 year after the ACS event was also higher in patients with diabetes than in those without, with diabetes conferring a 1.65-fold greater risk for all-cause mortality at 1 year in patients presenting with non-STEMI, and a 1.22-fold greater risk in patients presenting with STEMI.

Patients with ACS and comorbid diabetes, therefore, represent an extremely high-risk population that requires aggressive management.

Original article Donahoe SM *et al.* (2007) Diabetes and mortality following acute coronary syndromes. *JAMA* **298**: 765–775

Endothelial progenitor cells predict mortality in patients with congestive heart failure

Several studies have demonstrated a positive correlation between the level of circulating endothelial progenitor cells (EPCs) and the extent of tissue ischemia and endothelial damage. EPCs participate in vasculogenesis and angiogenesis, and a large pool of these cells might, therefore, reflect a high need for endothelial repair following damage. Researchers from the Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, conducted a study involving 107 consecutive patients in NYHA functional class II–IV and concluded that quantification of EPC levels might be useful in the clinical follow-up of patients with congestive heart failure (CHF).

The number of EPC colony-forming units isolated in 20 ml of peripheral blood was determined for each patient. Serum levels of vascular endothelial growth factor, N-terminal pro-brain natriuretic peptide and C-reactive protein were also quantified. Patients were followed up for a mean of 13.8 months, during which time 21 patients died and 26 were hospitalized for CHF. Cox regression analysis showed advanced age, diabetes mellitus and high levels of EPC colony-forming units to be independent predictors of all-cause mortality ($P = 0.01$, $P = 0.002$ and $P = 0.02$, respectively). EPC levels were not predictive of CHF-related hospitalization, possibly owing to the high level of mortality in this population. Further analyses demonstrated that EPC levels correlated with NYHA class, but not with the levels of vascular endothelial growth factor, N-terminal pro-brain natriuretic peptide or C-reactive protein.

Original article Michowitz Y *et al.* (2007) Circulating endothelial progenitor cells and clinical outcome in patients with congestive heart failure. *Heart* **93**: 1046–1050