surgical groups, the highest relative risk of ischemic stroke, compared with that expected in the general population, was seen in the 30-day period after surgery (overall relative risk 41). At 6 months after surgery, the risk of ischemic stroke had declined to normal values for patients who had undergone mitral valve repair or biological mitral valve replacement, but the risk remained high in patients who had undergone mechanical mitral valve replacement (relative risks 1.2, 0.9 and 4.3, respectively). The risk of bleeding was lowest among those patients who underwent mitral valve repair.

On the basis of these data, the authors suggest that the high initial risk of ischemic stroke should not discourage asymptomatic patients from undergoing surgery for mitral regurgitation and that the preferred surgical approach should be mitral valve repair.

**Original article** Russo A *et al.* (2008) Thromboembolic complications after surgical correction of mitral regurgitation: incidence, predictors, and clinical implications. *J Am Coll Cardiol* **51:** 1203–1211

## Renal dysfunction and prognosis in patients with heart failure

Deterioration of renal function in patients with heart failure can markedly worsen prognosis; however, the mechanisms underlying this relationship are unclear. To investigate the associations between renal dysfunction and cardiac hemodynamics, the ESCAPE trial investigators compared therapy guided by pulmonary artery catheterization (PAC) with treatment based on clinical assessment alone in 433 patients with advanced decompensated heart failure.

Patients were randomized on a 1:1 basis to one of the two treatment arms. The median serum creatinine (SCr) level at baseline was 132.6 μmol/l (1.5 mg/dl), and the median baseline estimated glomerular filtration rate (eGFR) was 71.4 ml/min. Baseline elevated SCr, baseline reduced eGFR, discharge elevated SCr and discharge reduced eGFR were all associated with significantly increased risks of death, and death or rehospitalization, at 6 months ($P \leq 0.002$ for all); however, worsening renal function (defined as an increase in SCr of $\geq 26.52$ μmol/l [0.3 mg/dl] or a decline in eGFR of $\geq 25\%$) was not. Among patients randomized

to PAC, weak but significant correlations were noted between the baseline measurements of SCr and eGFR and right arterial pressure ($r = 0.165$, $P = 0.03$, and $r = -0.195$, $P = 0.01$, respectively). No other correlations were noted between baseline hemodynamic parameters and baseline renal insufficiency, and no correlations were observed between baseline hemodynamic measurements and worsening of renal function. Comparisons of patient outcome in the two treatment arms revealed that PAC-guided treatment did not reduce 30-day mortality, length of hospitalization, or risks of death or death or hospitalization at 6 months. Furthermore, PAC did not reduce the incidence of worsening renal function.

These results, say the authors, indicate that baseline renal dysfunction has a greater influence on prognosis than does deterioration of renal function during hospitalization.

**Original article** Nohria A *et al.* (2008) Cardiorenal interactions: insights from the ESCAPE trial. *J Am Coll Cardiol* **51:** 1268–1274

## Increasing use of secondary prevention medication at root of improved post-MI outcome

The long-term prognosis after myocardial infarction (MI) has been improving in the elderly over the past three decades. Setoguchi *et al.* conducted a trend analysis to determine the extent to which the increasing use of secondary prevention medications after post-MI discharge has contributed to the reduction in mortality.

The researchers identified 21,484 patients (mean age 80 years; 73% female) who had been admitted to a hospital for MI between 1 January 1995 and 31 December 2004. A number of comorbid conditions were highly prevalent among the cohort, including heart failure (66%), coronary artery disease (62%), and diabetes mellitus (46%). Stratification of the data by year showed increases in the prevalences of comorbid hypertension, peripheral vascular disease, diabetes, and age at index MI. The use of percutaneous coronary intervention ($P < 0.05$) and the administration of statins, β-blockers, angiotensin-converting-enzyme inhibitors and angiotensin-II-receptor blockers ($P < 0.01$ for all medications) also increased over time. Multivariate analyses