for clinical follow-up at 1 year, two had suffered non-Q wave myocardial infarction and seven had undergone target-lesion revascularization. There were no deaths during the study period.

In summary, routine SES implantation appeared to be safe and was particularly effective in treating focal in-stent restenosis. The authors note that the encouraging results shown for more complex lesions require further study. Specifically, it will be important to compare this strategy with vascular brachytherapy.

Original article Saia F *et al.* (2004) Routine sirolimus eluting stent implantation for unselected in-stent restenosis: insights from the rapamycin eluting stent evaluated at Rotterdam cardiology hospital (RESEARCH) registry. *Heart* **90:** 1183–1188

Arrhythmia suppression by biventricular pacing

There is evidence that biventricular (BV) pacing reduces the frequency of ventricular arrhythmias, although the underlying mechanism has not been established. Kowal *et al.* have investigated this in the first prospective, randomized study in this setting.

Eighteen patients were subjected to programmed electrical stimulation (PES) for syncope, primary prevention, sustained ventricular tachycardia or wide complex tachycardia. Pacing was performed using either right-ventricular (RV)-PES or BV-PES. Each patient subsequently underwent pacing by the alternative method. In each case, the effective refractory periods were measured at the RV apex and the RV outflow tract. The local left-ventricular (LV) S_1–S_2 coupling intervals were also monitored.

There was no significant difference between the RV effective refractory periods during RV-PES and BV-PES. Local LV S_1–S_2 coupling intervals were significantly longer, however, during BV-PES than during RV-PES. Although the overall frequency of induced ventricular arrhythmias was similar using the two pacing methods, ventricular tachycardia was significantly less frequent in BV-PES than in RV-BES (one patient vs six patients, risk reduction 83%, $P = 0.01$).

Kowal *et al.* conclude that these findings may help to account for the decreased frequency of ventricular arrhythmias seen in chronic BV-PES treatment.

Original article Kowal RC *et al.* (2004) Biventricular pacing reduces the induction of monomorphic ventricular tachycardia: a potential mechanism for arrhythmia suppression. *Heart Rhythm* **3:** 295–300

New prognostic model using stress echocardiography

Stress echocardiography is commonly used for the diagnosis of coronary artery disease (CAD), but its prognostic value is poorly defined. Yao *et al.* have devised a prognostic model based on the extent and severity of wall-motion abnormalities as measured by this method.

A cohort of 1,500 patients with known or suspected CAD were included in the analysis. All patients were assessed by stress echocardiography with exercise-induced (34%) or dobutamine-induced (66%) stress. The echocardiograms—obtained at baseline, at each stage of stress and during recovery—were interpreted by consensus of two echocardiographers. Briefly, the image of the left ventricle was divided into 16 segments, each of which was scored as (1) normal, (2) mild to moderate hypokinesia, (3) severe hypokinesia, (4) akinesia or (5) dyskinesia.

During a mean follow-up of 2.7 ± 1.0 years, nonfatal myocardial infarction occurred in 31 (2.1%) patients and cardiac death was recorded in a further 44 (2.9%). Multivariate analysis showed that two echocardiographic measures were independent predictors of cardiac events. These were the number of segments with new wall-motion abnormalities (the 'ischemic extent') and the maximal magnitude of the abnormalities (the 'maximal severity') at peak stress. The predicted event rate for patients with extensive and severe wall-motion abnormalities was approximately seven-fold higher than for those with no such abnormalities.

This new model presents a noninvasive approach to risk stratification and prognosis in patients with suspected or known ischemic heart disease.

Original article Yao S-S *et al.* (2004) Novel stress echocardiographic model incorporating the extent and severity of wall motion abnormality for risk stratification and prognosis. *Am J Cardiol* **94:** 715–719