

receiving placebo died by day 13 (one before surgery) compared with five receiving amiodarone. Amiodarone was associated with fewer postoperative sustained ventricular tachyarrhythmias and slightly shorter hospital stay than placebo; it also produced few adverse effects and no serious postoperative events over 1 year of follow-up, although ventricular response rate was slower in this group.

These positive results oppose previous reports that amiodarone is effective only in certain subgroups of patients. According to the authors, delaying surgery to accommodate 6 days' preoperative amiodarone administration to allow the treatment to take effect might be warranted.

Pippa Murdie

Original article Mitchell LB *et al.* (2005) Prophylactic oral amiodarone for the prevention of arrhythmias that begin early after revascularization, valve replacement, or repair. PAPALEAR: a randomized controlled trial. *JAMA* 294: 3093–3100

Mixed results after autologous stem-cell transplantation for STEMI

Despite the benefit of reperfusion therapies, ST-segment elevation myocardial infarction (STEMI) is associated with a loss of viable myocardium and left ventricular (LV) function. Intracoronary transfer of autologous stem cells from bone marrow might improve LV remodeling and function following STEMI, but trials investigating this procedure have not included appropriate placebo control groups. Janssens and coauthors compared the effects of intracoronary stem-cell transfer with those of placebo transfer.

In this randomized, double-blind study, stem cells were harvested from the bone marrow of patients 1 day after percutaneous coronary intervention for STEMI. Patients received optimal medical therapy plus placebo ($n=34$) or stem-cell transfer ($n=33$). After 4 months of follow-up, LV ejection fractions had improved by similar amounts in both groups. Although at 2 months systolic function was better in stem-cell recipients than in placebo recipients, at 4 months the groups did not differ. The infarct size decreased more from baseline to 4 months in patients receiving stem cells than in those receiving placebo (treatment effect 28%, $P=0.036$), but no differences were noted between the groups in myocardial metabolism or perfusion.

The authors conclude that intracoronary stem-cell transfer does not improve global LV function more than standard reperfusion therapy alone. The decreased infarct volume with stem cells and the resulting improved regional contractile function in the most-severely infarcted segments suggests that this therapy could facilitate infarct remodeling.

Kate Matthews

Original article Janssens S *et al.* (2006) Autologous bone marrow-derived stem-cell transfer in patients with ST-segment elevation myocardial infarction: double-blind, randomised controlled trial. *Lancet* 367: 113–121

Repair versus replacement of mitral valves in patients with infective endocarditis

In cases of mitral regurgitation related to endocarditis, faulty mitral valves are replaced more frequently than they are repaired because surgeons associate reconstruction techniques with risk of recurrent infection. To find out whether these concerns over mitral valve repair are valid, Yamaguchi and colleagues followed up a series of patients with endocarditis who underwent valve surgery to treat mitral regurgitation.

Of the 14 patients who underwent valve repair, endocarditis was classified as healed in 6 individuals and active in 8. Various reconstruction techniques were employed, including resection–suture ($n=13$), annuloplasty ($n=13$), leaflet patch ($n=1$) and chordal transfer ($n=2$). On average, surgery was carried out 18 days after antibiotic treatment for endocarditis was started. One patient with active endocarditis developed cardiogenic shock before undergoing surgery and died soon after from intractable heart failure. Another patient needed a replacement valve after 34 months because of recurrent aortic and mitral regurgitation. Follow-up echocardiography (at a mean of 24 ± 28 months) confirmed the absence of mitral regurgitation in eight patients and mild symptoms in four.

Valve replacement was carried out in five individuals with active and two with healed endocarditis. One patient died from pneumonia and encephalopathy associated with systemic lupus erythematosus. Another patient required additional surgery for recurrent mitral regurgitation.

Importantly, no cases of recurrent infection were found in either treatment group.