

IN BRIEF

 VALVULAR DISEASE**Long-term superiority of TAVI in high-risk patients**

The CoreValve US Clinical Investigators report the superior 3-year clinical outcomes with transcatheter aortic valve implantation (TAVI) compared with surgery in high-risk patients with severe aortic stenosis. A total of 750 patients were randomly assigned to, and underwent, TAVI or surgical aortic valve replacement. After 3 years, TAVI was associated with significantly reduced all-cause mortality and stroke (37.3% vs 46.7%; $P=0.006$) and better aortic valve haemodynamics compared with surgery. No clinical evidence of valve thrombosis was reported in either group, and no significant differences existed in structural valve deterioration. “These findings,” conclude the researchers, “support the use of self-expanding TAVI as the treatment of choice in patients suboptimal for surgery.”

ORIGINAL ARTICLE Deeb, G. M. et al. Three-year outcomes in high-risk patients who underwent surgical or transcatheter aortic valve replacement. *J. Am. Coll. Cardiol.* <http://dx.doi.org/10.1016/j.jacc.2016.03.506> (2016)

 VALVULAR DISEASE**Mitral valve repair during CABG surgery**

In patients undergoing CABG surgery, the addition of mitral valve repair for moderate ischaemic mitral regurgitation does not lead to significant differences in left ventricular remodelling at 2 years. Investigators in the Cardiothoracic Surgical Trials Network randomly assigned 301 patients to undergo CABG surgery with or without mitral valve repair. After 2 years, the mean left ventricular end-systolic volume index was not significantly different between the two groups. Mortality was also similar. Combined surgery was associated with improvement in the rate of moderate or severe residual mitral regurgitation, but also a higher rate of neurological events and supraventricular arrhythmias. “Individual treatment decisions,” conclude the investigators, “require balancing the risks of these adverse perioperative events against the uncertain benefits of a lower incidence of postoperative ... mitral regurgitation.”

ORIGINAL ARTICLE Michler, R. E. et al. Two-year outcomes of surgical treatment of moderate ischemic mitral regurgitation. *N. Engl. J. Med.* <http://dx.doi.org/10.1056/NEJMoa1602003> (2016)

 CARDIAC RESUSCITATION**Antiarrhythmic drugs in out-of-hospital cardiac arrest**

Antiarrhythmic drugs, which are commonly used during out-of-hospital cardiac arrest, do not improve survival or favourable neurological outcomes. Investigators in the Resuscitation Outcomes Consortium randomly assigned 3,026 patients with nontraumatic out-of-hospital cardiac arrest and shock-refractory ventricular fibrillation or pulseless ventricular tachycardia to receive parenteral amiodarone, lidocaine, or saline placebo, in addition to standard care. Survival to hospital discharge was 24.4%, 23.7%, and 21.0% in each group, respectively. Neurological outcome at discharge from hospital was also similar in each group. Of note, administration of amiodarone or lidocaine seemed to be associated with a higher rate of survival compared with placebo when cardiac arrest was witness by a bystander, but not among those with unwitnessed cardiac arrest, perhaps indicating the importance of a fast response time and of bystander-initiated cardiopulmonary resuscitation.

ORIGINAL ARTICLE Kudenchuk, P. J. et al. Amiodarone, lidocaine, or placebo in out-of-hospital cardiac arrest. *N. Engl. J. Med.* <http://dx.doi.org/10.1056/NEJMoa1514204> (2016)