Cardiology news

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1 A recent study raised the question whether ICD therapy with or without resynchronization is in itself proarrhytmic. This question a-ppeared after the observation that in the clinical studies that evaluated ICD therapy against other treatment modalities, the ICD group had more than twice the number of malignant ventricular arrhythmias (that were either overpaced or shocked) than the total number of sudden deaths in the control group. The hypothesis is that the devices led themselfs to some of the arrhythmias. However, it is hard to demonstrate that any shock or overpacing of the ICD prevented a sudden death. Some of the electrical therapy provided might have been only for non-lethal sustained tachycardia, for example. Thus, the hypothesis might be true, but it must be proven by subsequent studies (Germano JJ, Reynolds MR, Essebag V, Josephson ME. *Is the ICD therapy in itself proarrhythmic?* – Frequency and causes of implantable cardioverter-defibrillator therapies: Is device therapy proarrhythmic? *Am J Cardiol* 2006; 97:1255-1261).

2 **Prasugrel has a better antiplatelet effect than clopidogrel, and fewer nonresponders.** (Jernberg T, Payne CD, Winters KJ, et al. Prasugrel achieves greater inhibition of platelet aggregation and a lower rate of nonresponders compared with clopidogrel in aspirin-treated patients with stable coronary artery disease. *Eur Heart J* 2006; DOI:10.1093/eurheartj/ehi877).

A recent study showed that prasugrel (a thienopyridine antiplatelet drug) may be more effective than clopidogrel, with a greater inhibition of platelet aggregation and fewer nonresponders. The mean inhibition of platelet (IPA) was 60.6% and 68.4% for prasugrel 30mg and 60mg, respectively, compared with 30% for clopidogrel 300mg. Pharmacodynamic nonresponders (defined as IPA <20%) were 3% for both doses of prasugrel, compared with 52% for clopidogrel. At 28 days, the IPA for a maintenance dose of prasugrel 10mg and 15mg were 57.5% and 65.8%, respectively, as compared with clopidogrel 75mg which had a IPA of 31.2%. There were no pharmacodynamic nonresponders in the prasugrel group at 28 days, as compared with 45% in the clopidogrel. Side effects in the prasugrel group were restricted to an increased trend towards a higher number of minor bleedings (as compared with clopidogrel) only in the 15mg dose group of prasugrel.

3 **High dose atorvastatin might prevent ventricular arrhythmias in ischemic heart disease patients** (De Sutter J, De Bacquer D, Jordaens L, et al. Intensive lipid-lowering therapy and ventricular arrhythmias in patients with coronary artery disease and internal cardioverter defibrillators. Heart Rhythm Society 2006 Scientific Sessions; May 17-20, 2006; Boston, MA).

Arecent study showed that 80mg of atorvastatin was associated with a lower risk of ventricular arrhythmia as recorded by the internal cardioverter defibrillator in the 106 patients that were studied. At 12 months, there was a significant 53% reduction in the hazard ratio in the 80mg atorvastatin group for malignant ventricular tachycardia that required ICD intervention (21% vs 38%; HR = 0.47; 95% CI = 0.22 – 0.98).

4 Thrombolysis night still be the treatment of choice in renal failure patients (Dragu R, Behar S, Sandach A, et al. Should percutaneous coronary intervention be the preferred method of reperfusion therapy for patients with renal failure and ST-elevation acute myocardial infarction? *Am J Cardiol* 2006; 97:1142-1145).

A recent study argued if primary PCI is the best treatment in renal failure patients with ST elevation acute myocardial infarction. The study showed that thrombolysis led to a significant lower rate of crude mortality at 30 days as compared with primary PCI or no treatment (8.3% vs. 40% vs. 29.7%; p=0.03). The three treatment groups included 124, 35 and 73 patients respectively, making this a small study. Further studies are needed to show the best reperfusion modality in renal failure patients.

5 An epinephrine stress test can unmask concealed long QT syndrome (Vyas H, Hejlik J, Ackerman MJ. Epinephrine QT stress testing in the evaluation of congenital long-QT syndrome. Diagnostic accuracy of the paradoxical QT response. *Circulation* 2006; 113: 1385-1392).

Many patients with long QT syndrome have normal ECG at rest. An epinephrine stress test could potentially play an important diagnostic in these patients. In this test, epinephrine is administered in increased doses, by intravenous route, from 0.025 μg/kg per minute up to a maximum of 0.3 μg/kg per minute. A 30ms paradoxical prolongation of the QT interval about 92% sensitivity, 86% specificity, 76% positive predictive value, and 96% negative predictive value for the most common form of the inherited syndrome, type 1 (LQT1). ❑