also similar, including freedom from cardiac death (96.7% vs 97.1%; p=0.68), recurrent MI (98.6% vs 97.9%; p=0.30), and repeat revascularization (91.6% vs 89.2%; p=0.10).

Although the comparison of the primary endpoint was neutral, there were reductions in key secondary endpoints with DES compared with BMS, including reductions in the rates of definite or probable stent thrombosis (0.9% vs 2.6%; p=0.01) and definite stent thrombosis (0.5% vs 1.9%; p=0.01).

The results of this study support the 2010 European Society of Cardiology guideline preference for DES over BMS in patients who have no contraindications to prolonged DAPT. More specifically, the findings of the EXAMINATION trial are consistent with the existing literature that demonstrates the safety and efficacy of DES for use in patients with STEMI. A particular strength of this study is the inclusion of all-comer STEMI patients, resulting in a cohort that is generalizable to clinical practice. In addition, it is one of the first trials that have evaluated EES, a newer-generation DES, in such a broad population.

The observation of a reduction in definite and definite or probable stent thrombosis in this modestly powered single-blind trial requires validation. In applying results to clinical practice, it should be noted that there was high utilization (90%) of DAPT through 1 year.

IABP Do Not Reduce Infarct Size in Patients with STEMI without Cardiac Shock: The CRISP AMI Trial

Written by Rita Buckley

Intraaortic balloon pump counterpulsation (IABP) prior to percutaneous coronary intervention (PCI) in patients with ST-segment elevation myocardial infarction (STEMI) does not reduce infarct size, as measured by magnetic resonance imaging (MRI), according to results from the Counterpulsation Reduces Infarct Size Acute Myocardial Infarction trial. Manesh Patel, MD, Duke University, Durham, North Carolina, USA, reported outcomes from the study [Patel MR et al. *JAMA*. 2011; CRISP AMI; NCT00833612].

CRISP AMI was an open-label, multicenter, randomized, controlled trial that included 337 patients with STEMI that involved the anterior wall who presented within 6 hours of chest pain onset and without cardiogenic shock. Patients were randomly assigned to receive IABP, which was placed prior to PCI and continued for at least 12 hours, or primary PCI with IABP used as "bailout," if necessary.

The objective of the study was to determine if routine IABP placement prior to reperfusion in patients with anterior STEMI without shock reduces myocardial infarct size. The primary outcome was infarct size, expressed as a percentage of left ventricular (LV) mass, as measured by cardiac MRI that was performed 3 to 5 days after PCI. Secondary endpoints included all-cause death at 6 months, rates of vascular complications, major bleeding, and transfusions at 30 days.

A total of 337 patients were randomized to either IABP prior to PCI (n=161) or standard PCI with "bailout" IABP if necessary (n=176). PCI was successfully performed in 94% of patients, and the left anterior descending artery was the target vessel in 97.6%. The crossover rate (patients in the standard PCI group who required IABP due to hemodynamic instability) was 8.5% (n=9).

Mean infarct size was not statistically significantly different between the patients in the IABP plus PCI group and in the standard PCI group (42.1% [95% CI, 38.7% to 45.6%] vs 37.5% [95% CI, 34.3% to 40.8%], respectively; p=0.06). Results were similar in the subgroup of patients with proximal left anterior descending disease and TIMI flow scores of 0 or 1 (46.7% [95% CI, 42.8% to 50.6%] vs 42.3% [95% CI, 38.6% to 45.9%], respectively; p=0.11).

At 30 days, there were no significant differences between the treatment groups with respect to major vascular complications (4.3% [95% CI, 1.8% to 8.8%] vs 1.1% [95% CI, 0.1% to 4.0%]; p=0.09) and major bleeding or transfusions (3.1% [95% CI, 1.0% to 7.1%] vs 1.7% [95% CI, 0.4% to 4.9%]; p=0.49) for IABP plus PCI versus standard PCI. At 6 months, there was no significant difference in outcomes, including mortality (p=0.12) and the composite of death, MI, or congestive heart failure (p=0.15).

Overall, this trial showed no benefit in terms of infarct size reduction in the use of routine IABP prior to PCI in patients with anterior STEMI. In addition, no significant differences between the IABC plus PCI group and the standard PCI group were observed in clinical endpoints. The authors concluded that the routine use of IABC in patients with anterior wall STEMI without cardiogenic shock does not lead to a reduction in infarct size at Days 3 to 5 or to an improvement in clinical outcomes at 6 months.

New Observations from STICH

Written by Anne Jacobson

Mitral valve (MV) repair during coronary artery bypass grafting (CABG) may be associated with improved survival compared with CABG alone in patients with low left