

New research was presented at SCAI 2015, the annual scientific sessions of the Society for Cardiovascular Angiography and Interventions, from May 6 to 9 in San Diego. The features below highlight some of the studies that emerged from the conference.

Mechanical Circulatory Support for STEMI

The Particulars: Although mechanical circulatory support (MCS) is often used in patients with cardiogenic shock after STEMI, studies on its efficacy have revealed conflicting results.

Data Breakdown: For a study, researchers analyzed more than 35,000 inpatient admissions with a principal diagnosis of STEMI that required MCS between 2003 and 2011. Use of MCS increased significantly during the study period. This increase was accompanied by a significant rise in the incidence of cardiogenic shock. Among patients with cardiogenic shock, those treated with MCS had an in-hospital mortality rate of 31.2%, compared with a rate of 39.4% observed in those treated without MCS.

Take Home Pearls: Use of MCS in patients with STEMI appears to have increased significantly in recent years. The approach appears to significantly reduce in-hospital mortality when compared with providing treatment without MCS.

Infra-Inguinal Percutaneous Vascular Stenting Vs Angioplasty

The Particulars: Few studies have explored outcomes following infra-inguinal percutaneous vascular stenting in recent years or compared these outcomes with those of angioplasty.

Data Breakdown: Study investigators used a national database to identify angioplasties or infra-inguinal procedures using a bare metal stent (BMS) or drug-eluting stent (DES) performed in adults between 2006 and 2011. Amputation rates were significantly lower in DES and BMS cases when compared with angioplasty cases. In-hospital mortality rates were similar for all procedures. However, DES and BMS use significantly reduced the mortality rate and risk for post-procedural complications.

Take Home Pearl: Infra-inguinal percutaneous vascular stenting appears to decrease rates of

amputation as well as mortality and post-procedural complications when compared with angioplasty.

LOS & Long-Term Mortality After STEMI

The Particulars: Research shows that there has been a significant reduction in hospital length of stay (LOS) among patients undergoing PCI for STEMI over the past few decades. Predictors of long LOS after STEMI have been assessed in previous studies, but have not clearly established the association between LOS and long-term outcomes after PCI.

Data Breakdown: Long-term mortality and LOS were assessed in a study of nearly 2,000 patients who underwent PCI for STEMI between 2002 and 2011. Researchers observed a significant rise in long-term mortality as LOS increased among those who survived their index hospitalization. Patients with an LOS of 3 to 5 days had a significantly higher rate of mortality than patients with an LOS of 1 to 2 days.

Take Home Pearls: Patients who require a longer hospital stay after PCI for STEMI appear to have a higher mortality risk. The authors note that these patients may benefit from close, frequent follow-up management.

Serum Uric Acid Predicts Post-AMI Mortality

The Particulars: Previous studies have found that high levels of serum uric acid appear to be an independent risk factor for cardiovascular morbidity and mortality, particularly in patients with heart failure and atrial fibrillation. Less is known about the relationship between serum uric acid levels and in-hospital mortality among patients with acute myocardial infarction (AMI).

Data Breakdown: For a study, patients with AMI were divided into those with an in-hospital mortality and those who survived the AMI. Patients who died in the hospital had higher serum uric acid levels than those who did not die. Serum uric acid levels, left ventricular ejection fraction, and systolic blood pressure were all independently associated with in-hospital mortality in the study population.

Take Home Pearls: Measuring serum uric acid may be a low-cost, simple approach to assessing in-hospital mortality risk among patients with AMI. Further research is needed to

determine whether high serum uric acid levels are a consequence of oxidative damage and inflammation in this patient population.

Comparing Revascularization Strategies in ESRD Patients

The Particulars: Coronary artery disease has been identified as a major cause of mortality in patients with end-stage renal disease (ESRD) patients who are on hemodialysis. Despite this knowledge, data are lacking on the optimal revascularization strategy for these patients.

Data Breakdown: A systematic review and meta-analysis was conducted and involved 24 studies that evaluated the early and late outcomes of PCI and CABG in ESRD patients who were on hemodialysis. During early follow-up, PCI was shown to have favorable outcomes in this patient population when compared with CABG. However, CABG was associated with a lower risk of later-stage mortality when compared with PCI.

Take Home Pearls: Among ESRD patients on hemodialysis, CABG appears to have a superior long-term mortality rate when compared with PCI. However, short-term outcomes for this patient group appear to be worse for CABG recipients than for those receiving PCI.

For more information on these studies and others that were presented at SCAI 2015, go to www.scai.org/SCAI2015

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