On June 30th 2010, the University of Pennsylvania randomized the 100th patient in a trial to evaluate the effectiveness and safety of mitral valve repair versus replacement in patients with severe ischemic mitral regurgitation (SMR). As of the third week of August, 110 patients have been enrolled. With 1-year mortality rates as high as 40% in this patient population, recent practice guidelines recommend surgical intervention, but there remains a lack of conclusive evidence supporting the long-term comparative benefits of these 2 approaches. Surgeons must weigh the trade-off between the reduced operative morbidity and mortality associated with repair versus better long-term correction of mitral insufficiency with replacement. Investigators expect to complete enrollment (n=250) in this trial by the spring of 2011.

The Moderate MR (MMR) Trial
CTSN investigators are also studying the preferred approach to moderate, ischemic MR. It is not clear whether routine mitral valve repair, in addition to revascularization, is beneficial in this setting. CTSN investigators have randomized 94 patients in the MMR trial to evaluate the effectiveness and safety of mitral valve repair with CABG compared to CABG alone.
Atrial Fibrillation (AF) Trial

Increasing numbers of patients with atrial fibrillation (AF) undergo ablation at the time of surgical repair of mitral regurgitation, yet the evidence base substantiating its benefits is lacking. The CT Surgery Network has designed and initiated a comparative effectiveness randomized trial of surgical ablation with left atrial appendage (LAA) closure versus LAA closure alone in patients with (longstanding) persistent AF undergoing mitral valve surgery. Nested within this trial, is a further randomized comparison of 2 different lesions sets (pulmonary vein isolation and full Maze lesion set). This trial recently opened for enrollment, and 35 patients have been randomized.

Preventing Infections Post-Cardiac Surgery

Hospital-acquired infections represent the main non-cardiac complication after heart surgery, and there is a critical need to identify causative factors in order to develop effective preventive strategies. Prior studies examined the relationship between patient baseline characteristics and infections post cardiac surgery, but little is known about the relationship between routine practices (e.g., line and ventilator management, etc.) and postoperative infection risk. To date, over 4,000 patients have been enrolled in a prospective cohort study designed to examine this relationship.

What’s New?

Translational Research

The Network is also exploring 2 proof-of-concept translational trials: (1) the use of mesenchymal stem cells (MSCs) to improve cardiac function in left ventricular assist device patients; and (2) the use of cardiac progenitor cells (CPCs) in cardiac transplant patients.

Expansion to Satellite Clinical Centers

The Network is in the process of expanding to the following satellite sites:
- Baylor Research Institute (Michael Mack, MD);
- Brigham and Women’s Hospital (Frederick Y. Chen, MD, PhD);
- Jewish Hospital (Mark Slaughter, MD);
- Mission Hospital, Inc. (Mark A. Groh, MD);
- University of Maryland Medical Center (James S. Gammie, MD);
- University of Southern California (Vaughn A. Starnes, MD);
- Washington University School of Medicine (Ralph J. Damiano, Jr. MD).

Network Chairs:
Timothy J. Gardner, MD (Chair)
Patrick T. O’Gara, MD (Co-Chair)

Data Coordinating Center (DCC):
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Michael K. Parides, PhD
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Rosemarie Gagliardi, cEdD, MPH, cCRA
Alejandra Guerchicoff, PhD
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