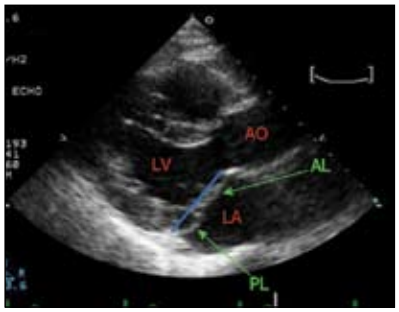
Valvular Heart Disease 2006: AHA/ACC Guidelines Update



In the United States alone there are 15-20 million people suffering from valvular heart disease, yet until recently guidelines used to treat these diseases were quite outdated. Some of the additions to the 2006 guidelines include methods to quantify valve severity, proper timing of valve surgery and indications for mitral valve repair. Additionally, these modernized guidelines urge physicians to look for early indicators of disease, rather than waiting for symptoms to develop.

Aortic Stenosis (AS)

The updated guidelines include grading criteria of AS severity using definitions of jet velocity, mean pressure gradient and valve area. Unfortunately there is no single number or test to define severe AS, but according to the new guidelines severe AS can be diagnosed if any of the following are true:

- Jet velocity >4 m/s
- Mean pressure gradient >40mmHg
- Valvular area <1.0 cm^2

For the asymptomatic patient, the following procedures should be performed:

- Echocardiography
- Exercise Testing (although it should be noted that exercise testing should absolutely not be performed in symptomatic patients)
- Careful counseling and patient history

Mitral Regurgitation (MR)

"Early surgical repair has changed the entire paradigm for the treatment of MR," says Patrick O'Gara, MD, Associate Professor of Medicine at Harvard Medical School. With a suitable anatomical valve and a skilled surgical team, mitral valve repair has become very successful. The new guidelines advocate clinical evaluation and echocardiography, followed by the assessment of left ventricle function and mitral valve repair when success is probable (>90%).

Highlights from the **American Heart Association 2006 Scientific Sessions**

Surgical Considerations

Surgery is now indicated for valve diseases more than ever due to the advent of reliable mechanical and biosynthetic prostheses, reliable valve repair procedures and low operative morbidity and mortality. The new guidelines specify who should be considered for various kinds of valve replacements/repairs. For example, mechanical aortic valve replacement is indicated for patients who already have a mechanical valve in the mitral or tricuspid positions, but a bioprosthesis is suggested for patients who have contraindications for warfarin therapy.

These long overdue guidelines should facilitate the practice of evidence-based medicine, leading to better survival rates and improved qualities of life.

For a downloadable version of the *AHA/ACC 2006 Guidelines for the Management of Patients with Valvular Heart Disease*, please visit: http://www.americanheart.org/presenter.jhtml?identifier=3040213

Percutaneous and Surgical Approaches to Valvular Heart Disease

Percutaneous Approaches to Mitral Regurgitation (MR)

Two trials, EVEREST I and II (Endovascular Valve Edge-to-Edge REpair STudy), examined the efficacy and safety of clip devices in treating patients with moderate to severe MR. EVEREST I, a non-randomized trial which is now complete, can be cautiously compared with data from the Society of Thoracic Surgeons (STS) database. Notably, patients enrolled in EVEREST I were older, had more diabetes, and more heart failure than those in the STS database.

After 30 days, 95% of the 92 patients in EVEREST I had no adverse events, and the one death was unrelated to treatment. These data show that the device decreases MR; 70% of the 82 patients available for follow-up had an MR reduced to ≤1+. Finally, says Peter Block, MD, Professor of Medicine in the Department of Cardiology at Emory University, "the good news is that the surgical options are not taken away." Therefore, if a clip implant is unsuccessful, a patient retains the option of surgery. EVEREST II is a randomized trial that will allow more direct comparisons between surgical and percutaneous edge to edge repair efficacy; investigators are anxiously awaiting these results.

Additional devices in development include the coronary sinus device from Viacor, the Mitralign system, the Edwards self expanding device and the Ample device.

Percutaneous Devices for Aortic Valve Disease

Although patients with aortic stenosis typically benefit from surgical replacement, an increasing number of individuals are poor candidates due to age and other factors. A percutaneous device, the Cribier-Edwards valve, is deployed through a patient's circulatory system and opened in the heart. John Webb, MD, Director of Interventional Cardiology at St. Paul's Hospital in Vancouver, and colleagues conducted a study to determine the efficacy and safety of this procedure. A femoral approach was used on about 60 patients and an apical approach was used on about 20 patients. Data is currently available only on the first 50 femoral patients. At 30 days, the predicted mortality was 28% in these patients with multiple co-morbidities, whereas the actual observed mortality was only 12%. There appears to be a learning curve, says Dr. Webb; the first 25 patients suffered from 16% mortality whereas the last 25 patients had a rate of only 8% (The Vancouver Registry).