

# Hybrid Aortic Arch Procedures Show Promise

BY MARK S. LESNEY

SAN FRANCISCO — Disease of the aortic arch can now be treated by combining open surgical procedures with endovascular repair—a hybrid technique that offers a less invasive option for the patient. Because of the novelty of such hybrid techniques, questions arise about procedural indications, techniques, and outcomes.

In an attempt to come up with benchmarks for this evolving approach, a meta-analysis of the published literature to date regarding hybrid repair of aortic

Meta-analysis end points were perioperative mortality, 30-day mortality, permanent and temporary stroke rate, permanent and temporary paraplegia rate, and endoleak rate.

In the meta-analysis of the 463 patients undergoing hybrid arch procedures, the overall perioperative mortality was 6.4% and the 30-day mortality was 8.3%. The overall endoleak rate was 9.2%, the permanent and tempo-

rorary stroke rate was 4.4%, and the permanent and temporary paraplegia rate was 3.9%, with an average follow-up of about 19 months.

The 463 patients were divided into two groups, one comprising 324 patients who had their procedure done on cardiopulmonary bypass (CPB) and a second group of 139 patients who had their procedure off CPB. Secondary meta-analysis between those two pa-

tient groups showed no statistically significant differences in any of the end points

These operative results for the hybrid procedures compare favorably with standard operative repair, according to the investigators. However, they indicated that there was a need for long-term follow-up and additional study.

The investigators had nothing to disclose with regard to this study. ■



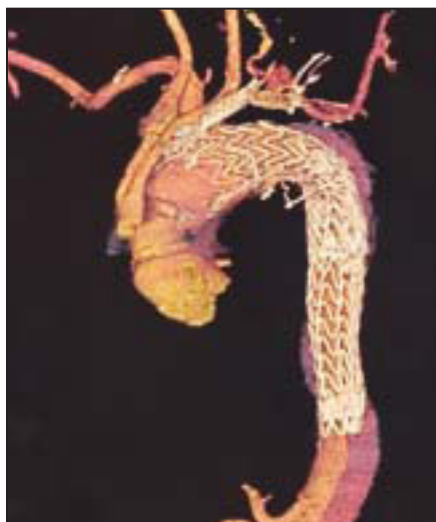
**Outcomes of hybrid procedures compare favorably with those of standard operative repair.**

DR. KOULLIAS

arch was performed, according to Dr. George J. Koullias.

He and his colleague reviewed a total of 718 retrospective studies and case reports of hybrid arch procedures that were listed in PubMed through May 2008. They excluded reports involving only left common carotid to left subclavian artery bypass; landing of the covered portion of the stent-graft in zones 2-4; and arch repairs using extrathoracic approaches, said Dr. Koullias at the annual meeting of the Society of Thoracic Surgeons.

A total of 55 studies, comprising 28 retrospective studies and 27 case reports, was identified. These included 582 patients (412 men and 170 women). Based on sample size criteria, a final total of 15 studies with 463 patients (320 men and 143 women) was included in the meta-analysis. The 40 remaining studies included up to 119 patients (92 men and 27 women) and comprised case reports and small retrospective studies (fewer than 11 patients per study). These were analyzed descriptively, according to Dr. Koullias of a cardiac surgery practice in Peoria, Ill., and his colleague, Dr. G.H. Wheatley of a cardiac group practice in Phoenix.



A hybrid approach was used in this patient with a type A aortic dissection.

COURTESY DR. GEORGE J. KOULLIAS/DR. G.H. WHEATLEY

## The total burden of AFib extends beyond symptoms

### Silent AFib is part of a growing epidemic<sup>1</sup>

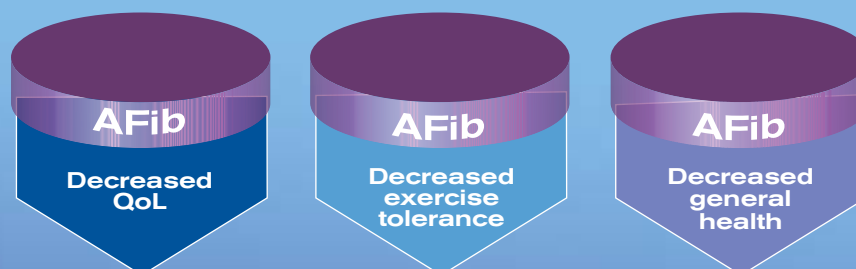
Atrial fibrillation is recognized as the most prevalent cardiac arrhythmia,<sup>2</sup> with a total burden that comprises both symptomatic and asymptomatic (silent) episodes.

- Asymptomatic episodes occur frequently in patients with atrial fibrillation, with rates as high as 60% reported<sup>1</sup>
- Asymptomatic episodes are 12 times more common than symptomatic episodes<sup>2</sup>

### Asymptomatic AFib may impact quality of life (QoL) and cardiac functioning<sup>2-4</sup>

Patients with asymptomatic atrial fibrillation do not always experience hallmark symptoms (palpitations, dyspnea, chest pain), but well-being may be diminished.<sup>2-4</sup>

#### AFib compromises global life satisfaction<sup>3,4</sup>



If undiagnosed or untreated, asymptomatic atrial fibrillation may also cause electrical and physiologic cardiac remodeling. This process can result in ventricular dilation, cardiomyopathy, and refractory atrial fibrillation.<sup>2,4</sup>

**References:** 1. Savelieva I et al. *Clin Cardiol*. 2008;31:55-62. 2. Savelieva I et al. *J Interv Card Electrophysiol*. 2000;4:369-382. 3. Savelieva I et al. *Heart*. 2001;85:215-217. 4. Boodhoo LE et al. *Minerva Cardioangiol*. 2004;52:547-552. 5. Tsang TSM et al. *Prog Cardiovasc Dis*. 2005;48:1-8. 6. Reynolds MR et al. *J Cardiovasc Electrophysiol*. 2007;18:628-633.