Intraoperative PFO Repair May Raise Stroke Risk

BY JEFF EVANS

Repair of incidental patent foramen ovale that is diagnosed during cardiothoracic surgery may be associated with an increased risk of postoperative stroke, according to findings from a large retrospective study.

Although Dr. Richard A. Krasuski and his associates at the Cleveland Clinic found no concurrent increase in perioperative complications or death after patent foramen ovale repair, they argued that their finding of a potentially increased risk of stroke "should discourage routine surgical closure and foster further investigation to delineate whether there is any benefit in terms of long-term stroke prevention and which patients might benefit from this intervention."

Patent foramen ovales (PFOs) have become a common incidental finding with the widespread use of intraoperative transesophageal echocardiography (TEE) during cardiothoracic surgery, although cardiothoracic surgeons manage the discoveries with a high degree of variability, according to Dr. Krasuski and his colleagues.

In one survey, 28% of surgeons said that they always closed intraoperatively diagnosed PFO while performing planned operations with cardiopulmonary bypass pump support and 10% said they never did.

In addition, 11% of the respondents reported that they always converted a planned off-pump procedure to on-pump to close the PFO (J. Cardiothorac. Vasc. Anesth. 2005;19:150-4).

The finding of a potentially increased risk of stroke 'should discourage routine surgical [PFO] closure.'

DR. KRASUSKI

In the current study, Dr. Krasuski and his colleagues identified 13,092 patients who had undergone cardiothoracic surgery with intraoperative TEE at the Cleveland Clinic during 1995-2006. They excluded patients who had been previously diagnosed with a PFO or an atrial septal defect (JAMA 2009;302:290-7).

The investigators found that 2,277 (17%) patients with an intraoperatively discovered PFO were diagnosed with the defect at a nearly constant rate during the study period, although the rate of repair steadily increased to a peak of almost 40% in 2003.

Compared with 1,638 patients who did not undergo PFO repair, the 639 patients who underwent PFO repair during the study period were significantly more likely to be women (33% vs. 42% in the repaired group); younger (64 years vs. 61 years); and undergoing mitral or tricuspid valve surgery (32% vs. 51%); and to have a history of transient ischemic attack or stroke (10% vs. 16%); a dilated left atrium (51% vs. 61%); and atrial fibrillation (10% vs. 13%).

Patients with a repaired PFO also had significantly fewer comorbidities than did those with an unrepaired PFO. These included hypertension, previous myocardial infarction, smoking, peripheral vascular disease, and carotid artery disease.

There were no important differences in perioperative outcomes between patients with an incidentally discovered PFO and those with no PFO.

However, patients who underwent PFO repair were 2.5 times more likely to have an in-hospital stroke than were patients with an unrepaired PFO after the researchers controlled for differences between the groups. In-hospital strokes occurred in 2.8% of patients with a repaired PFO and in 1.2% of those with an unrepaired PFO.

The researchers did not find any differences in comparisons of long-term mortality between patients with and without a PFO, or between patients with a repaired or an unrepaired PFO. Survivors in the study had a mean follow-up of 5.6 years.

"One might argue that no long-term difference was detected because surgeons were able to properly select patients undergoing repair, but this seems improbable given our extensive propensity-matched analysis.

"In contrast, we feel these data suggest that asymptomatic PFO in our population was likely a benign entity and repair might have increased the risk of postoperative stroke," the investigators wrote.

The researchers were unaware of what medications the patients were taking before and after surgery, such as anticoagulation or antiplatelet therapy.

Dr. Krasuski reported having served as a consultant to Gore Medical and on the speakers bureau of AGA Medical. ■

Finnish Study: Statins Cut Dementia Risk in Half

BY MICHELE G. SULLIVAN

VIENNA — Statin treatment may reduce the risk of later dementia by more than 50%, a national Finnish study has determined.

"Disturbances in cholesterol metabolism have previously been linked to dementia development," Dr. Alina Solomon wrote in a poster presented at the International Conference on Alzheimer's Disease. However, noted Dr. Solomon, of the University of Kuopio, Finland, not all studies have concluded that statins are protective against dementia onset.

The investigators examined this question using data from the national FINRISK study, a large, population-based survey of cardiovascular risk factors among Finnish citizens. The survey began in 1972 and is conducted every 5 years.

Dr. Solomon's substudy of FINRISK included data on 17,257 citizens who were included in the 1997 and 2002 cohorts, and who were at least 60 years old in 1995, when statins became available in Finland.

By the study's end at 2007, 1,551 of the subjects had developed dementia and 15,706 had not. Only 18% of those who developed dementia had taken at least 1 year of statin therapy, while 37% of those who were dementia free had taken a statin—a significant difference.

No significant associations were found between dementia and the use of other cholesterol-lowering medications, Dr. Solomon said, suggesting that "the effect of statins in dementia is partly independent of their cholesterol-lowering effect."

Subjects who developed dementia also had significantly higher baseline total cholesterol and baseline systolic and diastolic blood pressure. But a multivariate regression model that controlled for age, gender, education, cholesterol, weight, and blood pressure still found that statins conferred a 57% risk reduction for dementia over the course of the study.

The finding does not prove that statins prevent dementia, but it does suggest that further studies should explore the idea, focusing on statin types, dosages, and duration of treatment, Dr. Solomon said at the meeting, which was sponsored by the Alzheimer's Association.

Neither she nor her coinvestigators declared any potential conflict of interest in regard to the study. ■

Endovascular Clot Removal in Acute Stroke Improved Outcomes

BY AMY ROTHMAN SCHONFELD

BOCA RATON, FLA. — Patients with acute stroke who were successfully revascularized by having their clots removed with an endovascular mechanical device within 8 hours of symptom onset were less disabled and less likely to die than were those whose vessels remained closed, according to findings from a retrospective study.

Dr. Robert W. Tarr led a review of 157 "real-world" patients who had been treated with the Penumbra System, a mechanical device approved in Europe and in the United States in 2007 for use in patients with acute ischemic stroke secondary to intracranial large-vessel occlusive disease within 8 hours of symptom onset.

At baseline, the patients had a mean National Institutes of Health Stroke Scale (NIHSS) score of 16.3, and the average time from symptom onset to presentation was 2 hours.

About half of the patients were occluded in the middle cerebral arteries, whereas occlusions occurred in the internal carotid in about 25% and in the vertebrobasilar arteries in 25%, said Dr. Tarr, chief of neuroradiology at University Hospitals Case Medical Center, Cleveland.

After treatment, 87% of the treated vessels were revascularized to TIMI 2 or TIMI 3 levels. At discharge, those with open vessels were more likely to have an NIHSS score of 0 or 1 or an improvement of more than 10 points than were those whose vessels remained closed (40% vs. 10%, respectively), although this difference did not reach statistical significance. Three months after treatment, patients who were revascularized had lower modified Rankin scores than did patients with closed vessels, indicating that the revascularized patients had significantly lower rates of no to slight disability (45% vs. 13%) and a lower death rate (16% vs. 50%), Dr. Tarr reported at the annual meeting of the Society of NeuroInterventional Surgery.

Nine procedural serious adverse events were reported. Of the 157 patients, 10 (6%) experienced symptomatic intracranial hemorrhages. At the time of the presentation, the all-cause mortality rate was 20%. The device failure rate was about 2%, although Dr. Tarr said that he believes these failures did not promote or accelerate patient deterioration.

"Our postmarketing experience is consistent with the results of the pivotal trial with the Penumbra System with regards to revascularization, intracranial hemorrhage, and procedural complications.

"However, the current study demonstrated a lower mortality and a better functional outcome compared to the pivotal trial. This study also confirms that successful revascularization of intracranial vessels is associated with good outcomes, including less mortality," said Dr. Tarr, who disclosed having competing interests with Cordis Neurovascular, Boston Scientific, and Philips.

Penumbra did not provide financial support for the study, but did help with data analysis. ■