

Aspirin May Prevent Stroke in Women, MI in Men

BY MARY ANN MOON
Contributing Writer

Aspirin therapy for the primary prevention of cardiovascular disease may reduce the risk of ischemic stroke in women and the risk of myocardial infarction in men, according to a metaanalysis specifically designed to tease out gender-based differences in response to aspirin therapy.

But the results should be interpreted cautiously, because aspirin dose, treatment duration, and length of follow-up varied among the six trials in the metaanalysis. Moreover, the populations studied were healthy and at low risk for cardiovascular events, and the number of events was low.

Few data are available on aspirin for primary CVD prevention in women, and the single large, randomized trial to examine the issue showed different effects in women from those found in studies that enrolled men predominantly or exclusively, said Dr. Jeffrey S. Berger of Duke University, Durham, N.C., and his associates.

To clarify any possible differences in the benefits for men and women, the investi-

gators performed a metaanalysis of six prospective, randomized, controlled trials that included data on cardiovascular death, MI, and stroke. Three trials studied only men, one only women, and two had both.

Together the studies yielded data on 51,342 women and 44,144 men followed for a mean of 6.4 years after they began aspirin therapy or a placebo/control treatment.

Major cardiovascular events occurred in 1,285 women and 2,047 men. Pooled results showed a statistically significant 12% decrease in the risk of cardiovascular events in women taking aspirin and a significant 14% reduction in men taking aspirin, the investigators said (JAMA 2006;295:306-13).

The absolute risk reduction for cardiovascular events was 0.30% for women and 0.37% for men, and the number needed to treat to prevent one cardiovascular event over the mean follow-up of 6.4 years was 333 for women and 270 for men.

"In other words, aspirin therapy for an average of 6.4 years results in an average absolute benefit of approximately 3 CV events prevented per 1,000 women and 4

CV events prevented per 1,000 men," Dr. Berger and his associates explained.

However, aspirin's effects differed between the sexes when specific cardiovascular events were examined.

A total of 469 women developed MI (0.9%), and this rate was similar between those taking aspirin and those taking a placebo/control treatment. In contrast, 1,023 men developed MI (2.3%), and the rate was 32% lower in those taking aspirin.

Strokes occurred in 625 women (1.2%), and the rate was 17% lower in those taking aspirin—a significant difference. For women, aspirin cut ischemic stroke by 24% but did not appear to affect hemorrhagic stroke. In contrast, strokes occurred in 597 men (1.3%), and the rate was nonsignificantly increased in those taking aspirin. For men, aspirin had no effect on ischemic stroke but raised the risk for hemorrhagic stroke by a significant 69%.

Aspirin therapy did not affect the rate of death from cardiovascular causes or all-cause mortality in either men or women. It raised the risk for major bleeding events, usually gastrointestinal bleeding, for both sexes.

The reason for these apparent gender-related differences in response to aspirin ther-

Aspirin therapy for an average of 6.4 years prevents about 3 CV events per 1,000 women and 4 CV events per 1,000 men.

apy remains unclear. It may be related to the fact that overall risk for MI is lower in women than in men, while overall risk for stroke is higher in women than in men. There also may be differ-

ences between men and women in aspirin metabolism and aspirin resistance, the investigators reported.

The relatively small number of MIs in women and of ischemic strokes in men "suggest that further studies are needed before we can [definitively] conclude that men and women differ in their cardiovascular response to aspirin," they said. ■



DR. BERGER

Noninvasive Tests Can Help Refine Peripheral Artery Disease Diagnosis

BY MITCHEL L. ZOLER
Philadelphia Bureau

MIAMI BEACH — Several diagnostic tests complement the ankle-brachial index for diagnosing peripheral artery disease in patients with intermittent claudication.

For patients with suspected arterial disease but a normal ankle-brachial index of more than 0.9, segmental limb pressure, pulse volume recording, and an exercise treadmill test can help refine the diagnosis, Dr. Michael R. Jaff said at the 18th International Symposium on Endovascular Therapy.

Once peripheral artery disease (PAD) is diagnosed, three noninvasive methods can provide anatomic information prior to contrast angiography: Doppler ultrasound, MR angiography, and CT angiography.

Both pulse volume recording and segmental limb pressure recording help gauge the severity of PAD, and can localize the site of an occlusion or stenosis. These methods also are useful in patients who have atypical exertional limb symptoms. But like ankle-brachial index, they're less reliable in patients with calcified arteries, they can't distinguish between stenosis and occlusion, and severe inflow disease makes infrainguinal lesions hard to identify.

Pulse volume recording is well suited to track changes in the severity of PAD. Sequential limb pressures are obtained by using a panel of pressure cuffs placed on the thigh, calf, ankle, and foot as well as on the arm, said Dr. Jaff, director of the vascular diagnostic laboratory at Massachusetts General Hospital in Boston.

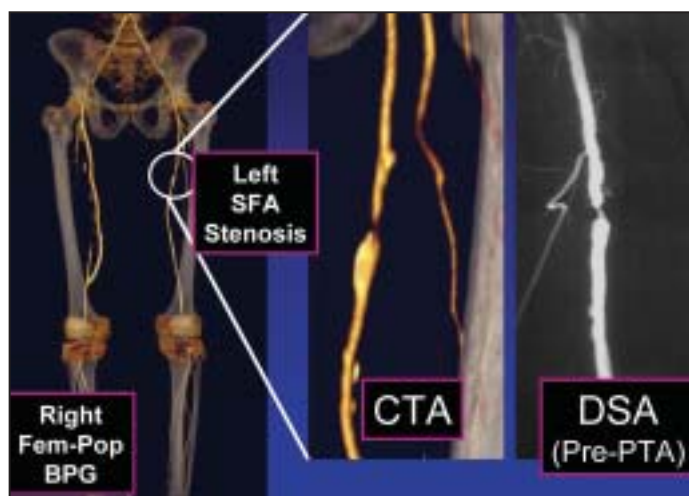
Patients with atypical exertional symptoms are good candidates for a treadmill test, which also is useful for measuring the functional impact of

peripheral artery disease, evaluating the impact of treatment, and unmasking occult angina or coronary disease. The standard treadmill protocol for suspected peripheral artery disease is a maximum of 5 minutes walking at 2 miles per hour on a simulated 12% grade. This requires a programmable treadmill.

For anatomic data, Doppler ultrasound is notable as a relatively inexpensive test compared with MR and CT. It's also painless and risk free, and can both predict the ideal access for intervention and assess the adequacy of revascularization therapy over time.

MR angiography is fast and gives excellent visualization of the entire arterial tree as well as soft tissue and solid organs. The contrast used is not iodine based and there is no radiation exposure.

CT angiography is even faster than MR, and provides high-resolution images of the entire arterial tree, as well as soft tissue and solid organs. But it uses iodinated contrast, and requires significant radiation exposure and prolonged breath holding by the patient. ■



Right femoral-popliteal bypass graft, left superficial femoral artery stenosis, CT angiography, and digital subtraction angiography (prior to percutaneous transluminal angioplasty).

COURTESY DR. MICHAEL R. JAFF/MASSACHUSETTS GENERAL HOSPITAL

Aortic Diameter Is Not an Accurate Predictor of Risk For Life-Threatening Rupture

BY BRUCE JANCIN
Denver Bureau

DALLAS — Most patients who present with type A acute aortic dissection have an aortic diameter below the threshold at which preventive aneurysm surgery is recommended in current surgical guidelines, Dr. Linda A. Pape said at the annual scientific sessions of the American Heart Association.

"We have the problem of diameter not appearing to be a very good predictor of dissection risk," observed Dr. Pape of the University of Massachusetts, Worcester.

She reported on 591 patients with type A acute aortic dissection enrolled in the International Registry of Acute Aortic Dissection. The registry, founded in the mid-1990s, includes 21 centers in 11 countries that have pooled resources to learn more about this disorder. All patients had measurements of their aortic diameter at dissection via MRI, transesophageal echo, CT, and/or angiography.

Current guidelines recommend preventive surgery when the maximum ascending aortic diameter reaches 5.5 cm in patients without Marfan syndrome and 5 cm in those with Marfan. That's the threshold at which the risk of dissection or

rupture becomes sufficient to outweigh the morbidity of major surgery.

But in the first-ever study of its kind to examine the issue in a large unselected patient population, Dr. Pape found 59% of patients had a maximum ascending aortic diameter less than the 5.5-cm cutoff. "A surprisingly high 40% of patients dissected at diameters less than 5 cm," the cardiologist added.

Patients who dissected at less than 5.5 cm had higher rates of reported back pain, radiating pain, abrupt onset of pain, and more neurologic deficits than did patients with an aortic diameter of 5.5 cm or greater at dissection, but rates of such complaints were high in both groups. Interestingly, the 5% of patients with Marfan syndrome were more likely to present with a diameter greater than 5.5 cm. Overall, mortality in the study was 27%.

"Aortic size is not a sufficient marker of risk for dissection. In order to prevent aortic dissection and its potentially catastrophic outcome, we need better methods—genetic, biomarkers, or aortic functional studies—to identify patients at risk," Dr. Pape said. These findings contribute to the rapidly evolving field of endovascular aneurysm repair. ■