Aspirin Therapy's Benefits Appear Gender Specific

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 with caution because aspirin dose, duration of treatment, and length of follow-up were not uniform 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 cardiovascular disease prevention in women, and the one large, randomized trial to examine the issue showed different effects in women than 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 investigators performed a metaanalysis of six prospective, randomized, controlled trials that included data on cardiovascular death, MI, and stroke. Three trials included only men, one included only women, and two involved both sexes.

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.

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

A total of 469 women developed MI (0.9%), and the 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%.

The results should be interpreted with caution because the six trials included in the metaanalysis were not consistent.

DR. BERGER

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

The reason for these apparent gender-related differences in response to aspirin therapy 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 differences between men and women in aspirin metabolism and aspirin resistance, the investigators said.

The findings should be interpreted cautiously because the six trials were not consistent in terms of aspirin dose, duration of treatment, and length of follow-up; in addition, the number of events was low.

In particular, the relatively small number of MIs among women and of ischemic strokes among men "suggest that further studies are needed before we can [definitively] conclude that men and women differ in their cardiovascular response to aspirin," Dr. Berger and his associates said. ■