Uncertainty Lingers Over Aspirin and Diabetes

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FROM A CONFERENCE ON THE MANAGEMENT OF DIABETES IN YOUTH

KEYSTONE, COLO. – A multidisciplinary position statement on aspirin for primary prevention of cardiovascular events in diabetic patients raises more questions than it answers, especially with regard to the appropriate course of action in adults with type 1 diabetes.

The statement, jointly published by the American Diabetes Association, American Heart Association, and American College of Cardiology, concluded: "The effect of aspirin for primary prevention of CVD events in adults with diabetes is currently unclear."

"And that's for type 2 diabetes. The statement doesn't even address type 1," Dr. Irl B. Hirsch said at the conference, which was was sponsored by the University of Colorado, Denver, and the Children's Diabetes Foundation at Denver.

The expert panel sidestepped the issue of aspirin for primary prevention of cardiovascular events in type 1 diabetic adults because the relevant randomized trial evidence is so scanty. Of the nine published randomized trials that have examined aspirin for primary prevention and included subjects with diabetes, six did not focus specifically on diabetic patients. And in three of these six – the Physicians' Health Study, the British Medical Doctors, and the Thrombosis Prevention Trial – a mere 1%-2% of participants had diabetes.

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Risk assessment tools can help guide clinical decisions, Dr. Irl B. Hirsch said.

Moreover, two of the three trials that focused on persons with diabetes included mainly or exclusively patients with type 2 diabetes. Only one randomized trial included a substantial population of type 1 diabetic patients, noted Dr. Hirsch, professor of medicine and holder of the Diabetes Treatment and Teaching Chair at the University of Washington, Seattle.

The expert panel performed a new meta-analysis using the three trials in diabetic patients plus the diabetic subgroups from the six other trials. They found prophylactic aspirin was associated with a 9% decrease in the risk of fatal and nonfatal MI and a 15% reduction in the risk of stroke, consistent with what was deemed a "modest" but statistically nonsignificant benefit (Diabetes Care 2010;33:1395-402).

The panel determined that the excess risk of gastrointestinal bleeding associated with aspirin for primary cardiovascular prevention in real-world settings may be 1-5 events per 1,000 treated patients per year. Thus, in persons whose risk of CV events is greater than 1% per year, the number of CV events prevented is likely to be equal to or greater than the number of bleeding events induced.

Based upon this reasoning, the panel concluded that low-dose aspirin at 75-162 mg/day is reasonable for adults with type 2 diabetes and no previous history of vascular disease whose 10-year estimated risk of cardiovascular events exceeds 10%, so long as they aren't at increased bleeding risk based upon medical history or concurrent use of other drugs that raise bleeding risk. Most diabetic men over age 50 and diabetic women over age 60 who have one or more of the standard major cardiovascular risk factors would fall into this category.

The ADA/AHA/ACC position statement recommended against aspirin for prevention of cardiovascular events in adult diabetics whose 10-year risk is under 5%. This would typically be most diabetic men under age 50 and women under age 60 without dyslipidemia, smoking,

hypertension, albuminuria, or a family history of premature cardiovascular disease (Diabetes Care 2010;33:1395-402).

Low-dose aspirin might be considered for primary prevention on a case-by-case basis in diabetic patients at intermediate cardiovascular risk until further research is available.

Two major ongoing clinical trials will add badly needed additional information. A Study of Cardiovascular Events in Diabetes (ASCEND) is a U.K. study looking at the impact of 100 mg/day of aspirin versus placebo in 10,000 men and women over age 40 with either type 1 or 2 diabetes and no prior vascular events. The Aspirin and Simvastatin Combination for Cardiovascular Events Prevention Trial in Diabetes (ACCEPT-D) is an Italian study with a planned enrollment of nearly 5,200 diabetic adults over age 50.

In the absence of solid data on the impact of aspirin for primary prevention in adults with type 1 diabetes, Dr. Hirsch is applying the new recommendations for patients with type 2 disease to his type 1 patients as well. He recommended two "excellent" cardiovascular risk prediction tools for smartphones for use in the clinic: the UKPDS Risk Engine, at www.dtu.ox.ac.uk/riskengine/index.php; and the American Diabetes Association Risk Assessment Tool, at www.diabetes.org/phd.

These risk engines are valuable because, as the position statement points out, aspirin is not given in a vacuum. For example, a diabetic patient with an estimated 20% 10-year risk of a major cardiovascular event based on hypertension and dyslipidemia would have that risk fall to 13% by taking a statin, with a further reduction in risk to 10% with optimal BP control. Thus, effective treatment of modifiable risk factors makes the aspirin risk-benefit decision more complex.

Some of the other medical risk management issues in aging adults with type 1 diabetes have more clear-cut answers than the aspirin question. In general, all adults over age 40 with type 1 diabetes should be on statin therapy, in Dr. Hirsch's view, particularly if albuminuria is present.

ACE inhibitors or angiotensin receptor blockers should be used liberally in adults with type 1 diabetes, he added. ■

Disclosures: *Dr. Hirsch disclosed having no financial conflicts.*