Sulfonylureas Don't Increase Post-MI Mortality

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ORLANDO — Treatment of diabetic patients who had a myocardial infarction with a second-generation sulfonylurea did not boost mortality, compared with treating patients by diet alone or with insulin, in a study of about 450 patients in a community-based cohort.

In fact, the results suggested that treatment with a second-generation sulfonylurea may have increased survival, compared with other treatments. However, the investigators preferred a conservative interpretation, which concluded only that sulfonylurea drugs produced no excess of deaths, Dr. Richard K. Patch III said at the annual scientific sessions of the American Heart Association.

The safety of sulfonylurea drugs in patients with diabetes who have an MI has been a subject of controversy, said Dr. Patch, a researcher at the Mayo Clinic, Rochester, Minn. The study was designed to investigate this.

The findings also showed that following an MI, the prognosis of patients with diabetes was significantly worse than it was for those without diabetes.

The study included patients from Olmsted County, Minn., a community of about 125,000 people, who were enrolled in the Rochester Epidemiology Project.

During 1979-2002, a total of 2,732 people had an MI, including 487 patients who had diabetes and 2,245 patients without diabetes. Their average age was 68 years, and they were followed for an average of almost 6 years.

Patients were identified as having diabetes based on criteria from the National Diabetes Data Group.

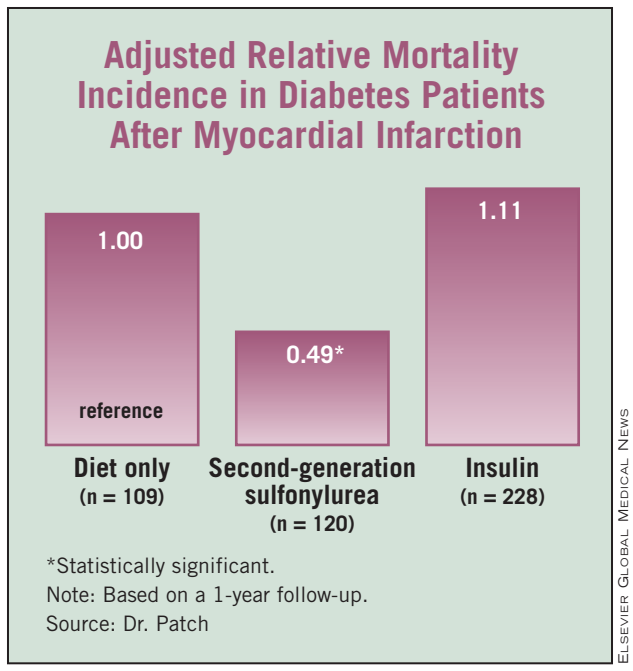
In an analysis that controlled for age and gender, patients with diabetes who had an MI were 33% more likely to die during the first year than were patients without diabetes, a statistically significant difference.

A second analysis looked at the link between treatment and survival. Patients were divided into three groups: those treated with diet only, those treated with insulin, and those treated with a sulfonylurea. Early during the study, first-generation sulfonylureas were used, but starting in the mid-1980s this practice shifted toward second-generation drugs, such as glipizide.

The analysis excluded the 30 patients treated with a first-generation sulfonylurea, and focused on the remaining 457 patients.

In an analysis that controlled for age, gender, duration of MI, renal function, and several other variables, treatment with a second-generation sulfonylurea drug was linked with a halving of the mortality rate compared with diet alone, a statistically significant difference. (See box.)

Treatment with insulin was linked with a small, nonsignificant increase in mortality. Data on hemoglobin A_{1c} levels were not available for all patients, so it was impossible to assess the role of tighter glycemic control on survival rates, Dr. Patch said. ■



ELSEVIER GLOBAL MEDICAL NEWS

Maternal Diabetes Ups Atrial Septal Defect Risk

ORLANDO — Women with either gestational or established diabetes were much more likely to deliver an infant with an atrial septal defect than were those with normal glucose control, based on the results of a retrospective, case-control study that included almost 5,000 women.

Women with established diabetes before they became pregnant were nearly 11-fold more likely to give birth to a child with an atrial septal defect (ASD), compared with women without diabetes, Dr. Creighton W. Don and his associates reported in a poster at the annual scientific sessions of the American Heart Association.

Maternal diabetes was previously linked to other types of congenital defects in newborns, but the relationship of ASD with maternal diabetes had not been previously well studied, said Dr. Don, a cardiologist at the University of Washington, Seattle, and his coinvestigators.

They used linked birth certificate and hospital discharge data from all nonfederal hospitals in the Comprehensive Hospital Abstract Reporting System in Washington state during January 1987–December 2005. Cases were live-born singleton infants diagnosed with ASD. Controls were infants born without ASD in the same year.

The incidence of ASD reports in hospitals from eastern Washington seemed unusually high, so those hospitals were excluded and the analysis was limited to hospitals in western Washington.

The analysis also excluded infants born at less than 32 weeks' gestation or less than 2,500 g. This left about 800 cases and 4,000 control infants who were included in a logistic regression analysis. The analysis controlled for several variables, including gestational age, birth weight, maternal age, maternal body mass index, race, and hospital location.

The analysis showed that women with established diabetes were 10.6-fold more likely to give birth to an infant with an ASD than were mothers without diabetes, and that mothers who developed gestational diabetes were threefold more likely to have a child with ASD.

The differences between the case and control rates for both subgroups were statistically significant.

Other factors linked with significant increases in ASD were non-Hispanic black race, which raised the risk 3.9-fold, and maternal age of 35 years or older, which raised the risk 2.5-fold. ■

Polyvascular Disease Is a Risk Factor For Cardiovascular Disease Events

ORLANDO — Polyvascular disease—symptomatic atherosclerotic disease in more than one arterial bed—was a significant risk factor for new cardiovascular events in a review of nearly 100,000 patients with acute coronary syndrome.

"Although the incremental risk [from polyvascular disease] is modest, it's similar to the added risk from diabetes," Dr. Deepak L. Bhatt said at the annual scientific sessions of the American Heart Association.

"This is a cheap and easy way to further prognosticate risk, and it needs no additional testing," said Dr. Bhatt, a cardiologist at the Cleveland Clinic. Physicians should also take note of the extra risk posed by polyvascular disease because current data suggest these patients are often, paradoxically, undertreated compared with patients who have documented atherosclerotic disease in just one vascular bed, he said.

The study used data collected on more than 95,000 patients with either unstable angina or non–ST segment elevation myocardial infarction who were enrolled in the Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes With Early Implementation of the ACC/AHA Guidelines (CRUSADE) registry during February 2003–September 2006 at about 500 U.S. hospitals.

For the new analysis, patients were classified as having prior disease in any of three arterial beds.

Patients were identified with coronary disease if they had a prior myocardial infarction or revascularization procedure, found in 43%. Patients were deemed to have carotid disease if they had a prior stroke, which occurred in 10%. Peripheral arterial disease was identified in patients with a history of any of several markers, including claudication, arterial insufficiency, bypass, or a low ankle/brachial index. A total of 12% had established peripheral arterial disease.

This is a cheap and easy way to prognosticate risk for new cardiovascular events.

DR. BHATT

Polyvascular disease was moderately prevalent, with 11% of patients having disease in two arterial beds, and 2% having disease in all three beds. Prior disease in a single bed was identified in 38%, and 49% had no identified diseased bed.

In an analysis that controlled for other variables at the time of hospitalization, patients with two affected beds had a 25% risk of having a cardiovascular event during their hospitalization compared with patients with no diagnosed arterial beds. An event was cardiovascular death, myocardial infarction, stroke, or heart failure.

Patients with three affected beds had a 30% increased risk of an in-hospital event, compared with patients with no diagnosed beds. In contrast, patients identified with one affected bed at hospitalization had a 7% increased risk, compared with patients who had no affected beds. The difference between each of the two polyvascular groups and the univascular group (one affected bed) was statistically significant, Dr. Bhatt reported.

In a second analysis that also controlled for baseline variables, all patients with polyvascular disease were 22% more likely to have a cardiovascular event during their hospitalization compared with the patients with none or one affected arterial bed, a statistically significant difference. Two other factors also had a significant impact in this analysis: Diabetes boosted the risk of an event by 16%, and ST segment depression boosted the risk by 32%.

Patients with polyvascular disease also had a significantly increased risk for requiring a blood transfusion during hospitalization. This link may be a result of confounding, but it may also involve a real cause such as increased access-site problems in patients with peripheral arterial disease, he said.

A prior report from Dr. Bhatt and his associates noted a significantly increased risk of cardiovascular events in those with stable coronary disease with polyvascular disease (JAMA 2007;297:1197-206). ■