Depression Tied to Later Coronary Heart Disease

BY MARK S. LESNEY
Senior Editor

Depression is a clinically significant risk factor for developing coronary heart disease, especially in men and women aged 25-50, according to an analysis of a national family database at the Karolinska Institute, Stockholm.

Data from the family coronary heart disease database at the institute were used to identify all people in Sweden aged 25-64 at the onset of depression, and aged 25-79 at the onset of nonfatal coronary heart disease (CHD) from 1987 to 2001. Onset of depression and onset of CHD were defined by the first recorded hospitalization. To prevent confounding reaction to CHD with depression, depression hospitalization had to occur before CHD hospitalization.

The analysis, performed in 2005, compared the standardized incidence ratios (SIRs) of CHD in patients with and without hospitalization for depression. Complete data on all hospital discharges in Sweden have been recorded since 1986 and formed part of the database, reported Jan Sunquist, Ph.D., and colleagues from the Center for Family and Community Medicine, Huddinge, Sweden (Am. J. Prev. Med. 2005;29:428-33).

Significant SIR for CHD hospitalization in depressive patients was greatest in the 25-39 age group in both men (SIR = 2.97) and women (SIR = 3.04) and remained significant after adjustment for socioeconomic status of all age groups for both men and women—except for those in the 70-79 age group. In fact, the risk of developing CHD after hospitalization for depression decreased with increasing age at diagnosis of CHD, the investigators reported.

Two groups of patients were compared from the larger database. The first group studied had hospitalization for depression, followed by CHD hospitalization (n = 1,916). The second group had been hospitalized only for nonfatal CHD (n = 425,495). Both depression and CHD had to be diagnosed based on World Health Organization ICD criteria. Gender, age at diagnosis of CHD, socioeconomic status, and geographic region were included as variables.

The researchers believe that their results have important clinical implications for preventive care. "Primary health care teams meet patients with depression, and it is important that they treat depression as an individual and independent CHD risk factor," the researchers wrote.

"The risk associated with clinically significant depression probably cannot be overcome by short-term interventions alone. Patients with clinical depression should be given not only short-term treatment, but also maintenance therapy to prevent relapses and recurrences."

Previous studies have shown that patients with depression have higher rates of CHD than nonaffected individuals. But this research is the first, large-scale population-based study of the incidence of CHD in patients with depression. ■

Rosiglitazone Reduces CRP, Atherosclerosis in Diabetics

BY MITCHEL L. ZOLER
Philadelphia Bureau

DALLAS — Treatment with rosiglitazone was linked with markedly reduced serum levels of C-reactive protein and regression of carotid atherosclerosis in a study with about 70 patients with type 2 diabetes. In contrast, treatment with metformin was unable to produce either of these effects.

These findings "point to potential superior efficacy of thiazolidinediones over metformin for cardiovascular outcomes, but direct studies are needed," Dr. Allen J. Taylor said at the annual scientific sessions of the American Heart Association.

"The data are consistent with the biologically plausible hypothesis of a direct antiatherosclerotic effect of rosiglitazone," said Dr. Taylor, chief of cardiology services and professor of medicine at Walter Reed Army Medical Center in Washington.

The study, done at Walter Reed, had no commercial sponsorship.

The researchers enrolled patients with type 2 diabetes and a hemoglobin A_{1c} level of more than 7% despite treatment with diet or a sulfonylurea drug. Patients were randomized to treatment on an open-label basis to either 4 mg rosiglitazone (Avandia) daily or 850 mg metformin (Glucophage) twice daily. The randomization was stratified to assign patients with similar levels of statin use to both treatment groups.

The primary end point was the change in serum levels of C-reactive protein (CRP) after 24 weeks of treatment. In the rosiglitazone group, serum CRP fell by about half after the first 2 weeks of treatment, from an average of 6 mg/L at baseline to a mean of 3 mg/L. The CRP level continued to gradually drop during subsequent treatment, and after 24 weeks, was at an average of 2 mg/L in 37 evaluable patients.

Every time CRP levels were measured, after 2, 4, 16, and 24 weeks of treatment, the reductions were significantly different, compared with baseline.

In contrast, metformin produced no significant drop in CRP at any of the measured times in 38 evaluable patients. The secondary end point was a change in the ultrasound measurement of carotid intimal medial thickness after 24 weeks of treatment, compared with baseline levels.

In the rosiglitazone group, the mean carotid intimal media thickness regressed by an average of 0.069 mm in 35 evaluable patients, an indicator of reduced atherosclerosis. The average change in 38 patients treated with metformin was atherosclerosis progression of 0.011 mm. The difference between the two groups was statistically significant.

An exploratory analysis indicated a modest statistical link between the change in serum CRP and the change in carotid intimal medial thickness, Dr. Taylor said.

Neither drug had an effect on serum levels of low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, or triglycerides. ■

History of Gestational Diabetes Linked to Cardiovascular Risk

BY BRUCE JANCIN
Denver Bureau

Women with a history of gestational diabetes are at increased cardiovascular risk and deserve targeting for risk factor reduction, Kathleen King, Ph.D., said at the annual scientific sessions of the American Heart Association.

These women are particularly prone in middle age to an adverse lipid profile characterized by the combination of low HDL and elevated triglycerides, added Dr. King of the University of Rochester (N.Y.).

It's well established that women with a history of gestational diabetes mellitus (GDM) are at increased risk of developing type 2 diabetes. Since type 2 diabetes has been characterized by the National Cholesterol Education Program as a coronary heart disease risk equivalent, Dr. King hypothesized that women with a history of GDM would have a worse cardiovascular risk profile than those without such a history.

She reported on 17 women, mean age 44, with a history of GDM but without type 2 diabetes. They were matched with 17 controls by age, body mass index (BMI), and age of the index child, who on average as 14-15 years old. All 34 participants underwent a 3-hour oral glucose tolerance test after 3 days on a 150-g carbohydrate/day diet followed by a 10-hour fast.

The mean triglyceride level was 140.9 mg/dL in women with a history of GDM, compared with 90.1 mg/dL in controls. Six women with prior GDM were hypertriglyceridemic as defined by a level in excess of 150 mg/dL, as was a single control subject.

Although mean HDL values didn't differ between the two groups, eight women with a history of GDM had an HDL below 50 mg/dL, compared with two controls. Five women with prior GDM, but none of the controls, had both low HDL and hypertriglyceridemia.

"This was true even though controls were matched for BMI. This indicates overweight and obesity in and of themselves may not be the only differentiating features between women with and without a history of GDM," she said. Unexpectedly, mean LDL in the group with prior GDM was lower than in controls: 100.7 mg/dL, compared with 110.1 mg/dL. Fasting blood glucose levels in the two groups didn't differ, nor did mean waist circumference.

Three women with a GDM history and one control subject met NCEP criteria for metabolic syndrome. But eight women with prior GDM met at least two of the five criteria for the metabolic syndrome, as did only three controls, a significant difference. ■

Thin and Unfit Better Than Fat And Fit in Limiting CHD Risk

BY BRUCE JANCIN
Denver Bureau

DALLAS — Is it better from the standpoint of cardiovascular risk to be fat and fit, or lean and unfit?

That's a question in the minds of many roly-poly regular exercisers and skinny couch potatoes who are contemplating a lifestyle change. And Dr. Charles B. Eaton provided the answer at the annual scientific sessions of the American Heart Association.

Young adults who are lean and have poor cardiorespiratory fitness have a coronary heart disease risk profile that is clearly better than that of overweight individuals with high fitness.

But the best CHD risk factor profiles of all belong to individuals with high fitness and a normal body mass index (BMI), according to Dr. Eaton of Brown University, Providence, R.I.

He analyzed cross-sectional data on a representative sample of 2,178 Americans aged 20-49 years who were included in the National Health and Nutrition Examination Survey for 1999-2002. Dr. Eaton categorized the subjects as having low, medium, or high cardiorespiratory fitness based upon their estimated VO_2 max compared with age- and gender-specific norms. He further cross-stratified participants as normal-weight—meaning a body mass index of less than 25 kg/m^2—overweight, or obese as defined by a BMI in excess of 30.

When Dr. Eaton plugged in data on each subject's total cholesterol, HDL, blood glucose, and insulin levels, as well as insulin resistance and systolic blood pressure, the composite CHD risk factor profile that emerged shot down the hypothesis that fat but fit is better than lean but unfit.

For example, the mean total cholesterol/HDL ratio was 4.82 in obese individuals with high fitness, 4.13 in highly fit overweight subjects, and 3.62 in individuals with low fitness and a BMI of less than 25. Highly fit individuals with a BMI below 25 fared best of all, with a mean ratio of 3.48. The other CHD risk factors followed the same trend. ■

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