

## Fiber Intake May Impact C-Reactive Protein Levels

BY PATRICE WENDLING  
Chicago Bureau

QUEBEC CITY — Increasing dietary fiber intake might be warranted in patients with diabetes, hypertension, and obesity, Dana King, M.D., said at the North American Primary Care Research Group annual meeting.

He presented a study in which adults with low fiber intake and at least two of the three conditions were twice as likely to have elevated C-reactive protein (CRP) levels, compared with adults with no risk conditions, even after controlling for confounding factors.

Moreover, the influence of fiber on CRP values was greater as the number of conditions increased, said Dr. King, professor at the Medical University of South Carolina, Charleston.

There is some evidence to suggest that dietary fiber reduces cholesterol and influences inflammation. But CRP increases the risk of cardiovascular disease independently from cholesterol, he said.

Both the American Diabetes Association and the American Heart Association suggest adults consume 25-30 g of fiber per day. However, neither group has specific recommendations for higher intake among high-risk patients, Dr. King said.

The cross-sectional study included 7,891 participants in the 1999-2002 National Health and Nutrition Examination Survey at least 20 years of age who had valid high-sensitivity CRP measurements and dietary information. Participants were asked to recall fiber consumption in the previous 24 hours. Fiber supplements were not counted toward total intake.

Individuals with two or more condi-

tions—diabetes, hypertension, or obesity—who consumed 20 g per day or more of fiber had significantly lower median CRP (3.1 mg/L) than people who consumed 8.8 g/day or less (4.5 mg/L).

CRP was four times higher in people with these conditions who consumed less than 8.8 g/day of fiber than people without these conditions (1.4 mg/L).

Even after controlling for age, race, gender, and tobacco use, adults with two or more conditions had double the risk of having elevated CRP (odds ratio 2.3), compared with adults with no risk conditions (OR 1.5).

Only 2%-3% of patients in the study had rheumatoid arthritis, which can raise CRP levels.

Interestingly, only dietary fiber showed a consistent association with CRP. There was no consistent association between CRP and other dietary components such as fat, polyunsaturated fat, protein, carbohydrates, or fish-oil consumption, he said.

It's unclear what biological mechanisms might be at work, but fiber itself might not be the source of the observed benefits.

"We could very well be looking at a surrogate," Dr. King said. "Fiber may not be changing CRP. There have been a couple of studies, including our own, that have looked at other things that travel along with fiber, other nutrients, such as magnesium."

"There is a high correlation between magnesium intake and fiber intake, and there is a high predictive value of high magnesium intake and lower blood pressure and lower cardiovascular disease. So they may be traveling together. We are still in the process of sorting these things out."

## Weight Gain Seen With Most Drugs For Diabetes, Except Metformin

SAN DIEGO — Real-world weight changes that occur in diabetic patients with initiation of glucose-lowering drugs generally mirror what is seen in carefully controlled clinical trials, Gregory A. Nichols, Ph.D., reported at the annual scientific sessions of the American Diabetes Association.

Chart reviews of 12,521 new diabetes drug initiations among 9,546 diabetic enrollees in Kaiser Permanente Northwest revealed that patients typically gained about 2 pounds within a year of starting a sulfonylurea, 9 pounds after initiation of insulin, and 11 pounds with thiazolidinedione therapy. With metformin, on the other hand, patients lost about 5 pounds. Differences between all the groups were statistically significant.

"We make no value judgments about the drugs or their weight effects. Tight control, however achieved, is undoubtedly more important than any of the weight changes we observed," said Dr. Nichols, of Kaiser Permanente's Center for Health Research, Portland, Ore.

Age, sex, hemoglobin A<sub>1c</sub>, history of peripheral artery disease, use of selective serotonin reuptake inhibitors, and whether the agent was the first diabetes drug the patient had been treated with were all significant predictors of weight change. However, adjusting for those and other demographic and clinical characteristics made little difference in the results, he noted.

Although metformin has been increasingly used as first-line glucose-lowering therapy, sulfonylureas were still the most common first-line treatment (54%) among the 1,549 who were subsequently started on a second diabetes drug. Weight changes with the addition of the second agent in this subgroup followed similar patterns. For example, the 833 in whom metformin was added to sulfonylurea first gained 6.4 pounds, then lost 5.6 pounds. At the other extreme, the 26 in whom thiazolidinediones were added to insulin gained 14.7 pounds, then gained 11.2 more.

—Miriam E. Tucker

## Type 2 Diabetes Alone Is Not a CAD Risk Equivalent

BY MITCHEL L. ZOLER  
Philadelphia Bureau

STOCKHOLM — Type 2 diabetes, by itself, does not boost the risk of cardiovascular events. It's only when type 2 diabetes and coronary artery disease coincide in a patient does diabetes raise the risk, according to findings from 750 patients.

"Type 2 diabetes is not a coronary artery disease (CAD) risk equivalent," Heinz Drexel, M.D., said while presenting a poster at the annual congress of the European Society of Cardiology. "The prognosis of patients with type 2 diabetes but no coronary artery disease is significantly better than [that of] patients with coronary artery disease but no diabetes," said Dr. Drexel, director of the Vorarlberg Institute for Vascular Intervention and Treatment in Feldkirch, Austria.

The study reviewed the outcomes of 756 patients who underwent coronary angiography at the institute from October 1999 to October 2000. The analysis excluded six patients with type 1 diabetes. Among the remaining patients, 244 (33%) had no type 2 diabetes or coronary disease, 50 (7%) had type 2 diabetes and no coronary disease, 342 (46%) had coronary disease but no diabetes, and 114 (15%) had both coronary disease and type 2 diabetes. Those with

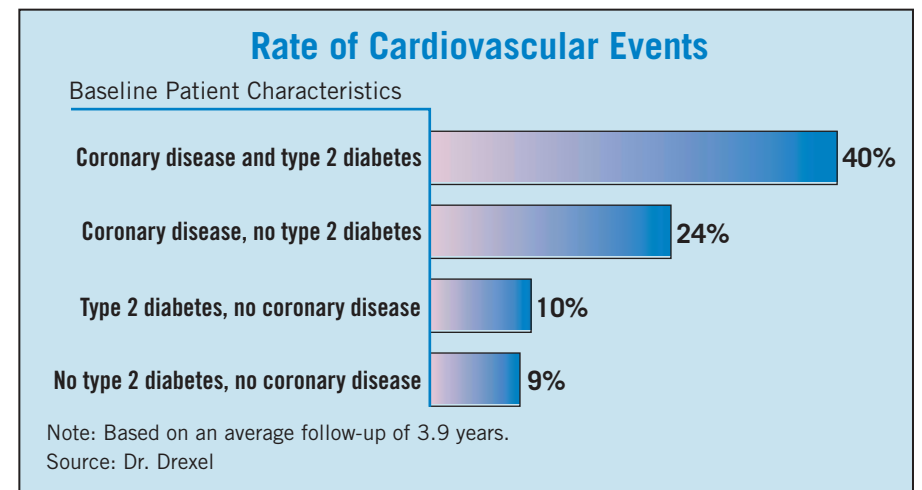
diabetes but no coronary disease had diabetes for an average of 2 years. Those with diabetes and coronary disease had diabetes for an average of 8 years.

During 3.9 years of follow-up, the patients had a total of 151 cardiovascular events, a 20.1% incidence rate.

The event rate was 9% among those who started with no diabetes or coronary disease, 10% among those with diabetes only, 24% among those with coronary disease only, and 40% among patients with both diabetes and coronary disease at baseline. (See box.)

The difference in rates between all of the subgroups was statistically significant, except for those with neither diabetes nor coronary disease and those with diabetes only. The event rate among patients with diabetes only was significantly less than the rate among patients with coronary disease only.

In a multivariate analysis that adjusted for age and gender, patients with diabetes and coronary disease were about five times more likely to have a cardiovascular event than were patients with neither risk factor. Patients with coronary disease only were three times more likely to have an event. But patients with diabetes only were 10% more likely to have an event than those with neither risk factor, a nonsignificant difference. ■



## Few Get Obesity Diagnosis From Doctor

QUEBEC CITY — Society may be willing to label anyone who's not rail thin as being overweight, but a new study suggests that physicians are loath to do so, even with the obese.

Researchers randomly identified 486 obese or overweight patients aged 18-70 years in a family medicine clinic by calculating their body mass index (kg/m<sup>2</sup>). But a chart review found that only 97 (20%) of these patients had a documented diagnosis of obesity in their chart.

"There's still some discomfort. How do we bring it up?" said Cassandra Arce-neaux, M.D., of the University of Texas, Galveston. "There needs to be education for the physician on how to talk to patients about weight."

Another problem may be the way obesity is documented in the chart.

"Some physicians said that it doesn't make sense to talk about obesity because you can't bill for it and get paid," she said.

Only 3% of overweight (BMI 25-29.9) patients were diagnosed, compared with 7.8% of patients with stage 1 obesity (BMI 30-34.9), 28% of patients with stage 2 obesity (BMI 35-39.9), and 61% of patients with stage 3 obesity (BMI 40 or greater).

Of the total sample, these patients accounted for 37.5%, 26.9%, 16.6%, and 19%, respectively.

Of stage 3 obesity patients, 7% received education compared with 1% of overweight patients, 2.5% of stage 1 obesity patients, and 4% of stage 2 obesity patients.

—Patrice Wendling