Use CRP to Gauge Risk In Metabolic Syndrome

BY BRUCE JANCIN
Denver Bureau

COLORADO SPRINGS — Measurement of high-sensitivity C-reactive protein is particularly useful in deciding whether to "pull the trigger" on prescribing more aggressive pharmacotherapy in patients with the metabolic syndrome, John A. Merenich, M.D., said at the annual scientific meeting of the Colorado chapter of the American College of Physicians.

"I use hs-CRP as a tie breaker. It's a test that has to be done in conjunction with global risk assessment. If I'm already convinced a patient needs therapy, I don't need an hs-CRP—I just treat. If a patient is at low global risk, a test such as hs-CRP is going to have an unacceptable false-positive rate. But if I'm on the fence or the patient is on the fence, I'll use the hs-CRP to dictate how aggressive I'm going to be," said Dr. Merenich, director of the Colorado Kaiser Permanente Care Management Institute, Denver.

Dr. Merenich was quick to add that although he considers it reasonable to use agents such as statins, fibrates, fish oil, aspirin, ACE inhibitors, and metformin to treat higher-risk patients with metabolic syndrome, such treatments are not yet truly evidence based.

He cited data from nearly 15,000 participants in the Women's Health Study to support his suggestion to use hs-CRP to further risk-stratify patients with metabolic syndrome. In a published analysis led by Paul M. Ridker, M.D., of Harvard Medical School, Boston, women who met criteria for metabolic syndrome and had a CRP value below 3 mg/L had a 2.3-fold increased relative risk of cardiovascular events during follow-up, compared with those without metabolic syndrome who had a CRP below 3 mg/L.

The relative risk rose to 4.0 in women with metabolic syndrome and an elevated CRP, and the increased relative risk associated with an elevated CRP applied even in women with metabolic syndrome who had an LDL below 130 mg/dL (Circulation 2003;107:391-7).

Despite the present lack of clinical outcome data for metabolic syndrome, Dr. Merenich considers more aggressive drug therapy "a reasonable option" in those at higher risk as defined by a Framingham risk score greater than 10%, an elevated CRP, or an abnormal fasting blood glucose despite the lifestyle measures that constitute the cornerstone interventions.

Metformin is a good fit for patients who have impaired glucose tolerance. Support for its use comes from the Diabetes Prevention Program, in which 3,234 obese patients with impaired glucose tolerance were randomized to metformin, an intensive lifestyle intervention, or placebo. After 3 years, the risk of developing diabetes was reduced by 31% in the metformin arm vs. placebo, and by 58% in the lifestyle intervention group (N. Engl. J. Med. 2002;346:393-403).

Preferential use of an ACE inhibitor to lower blood pressure in hypertensive patients with metabolic syndrome is supported by the Heart Outcomes Prevention Evaluation (HOPE) trial. HOPE participants randomized to 10 mg/day of ramipril showed a 34% reduction in new-onset diabetes vs. placebo, Dr. Merenich said. ■

Metabolic Syndrome May Carry Greater CV Risk in Women

ORLANDO, FLA. — Metabolic syndrome may be a greater risk factor for stroke and vascular events in women than in men, Bernadette Boden-Albala, Ph.D., reported at an international conference on women, heart disease, and stroke.

In the longitudinal Northern Manhattan Study (NOMAS) of 3,297 adult community residents who were stroke-free at study entry and followed for a mean of 5 years, nearly 46% of the 2,077 women and 35% of the men met the criteria for metabolic syndrome at study entry, said Dr. Boden-Albala of the Neurological Institute, New York.

After adjustment for age, race and ethnicity, education, and risk factors, the effect of metabolic syndrome on vascular events was significantly greater in women (hazard ratio [HR] 1.8) than in men (1.4). The HRs for stroke risk associated with metabolic syndrome were 2.0 for women and 1.1 for men. Metabolic syndrome accounted for 27% of vascular events and 30% of stroke events in women.

Metabolic syndrome was more prevalent in Hispanic (48%) than in white (36%) or black (34%) women. After adjustment for age, women with metabolic syndrome were significantly more likely to be Hispanic, socially isolated, Medicaid users, and physically inactive.

—Sharon Worcester

CLINICAL GUIDELINES FOR FAMILY PHYSICIANS

Diabetes Care 2005

BY JOHN RUSSELL, M.D., AND NEIL S. SKOLNIK, M.D.

Every January, the American Diabetes Association issues its standards of care. Here we review some of the basic recommendations and some new issues that were discussed this year (Diabetes Care 2005;28[suppl. 1]:S4-S36).

Diagnosing Diabetes

The diagnosis of diabetes is made when there are symptoms of diabetes and either a casual plasma glucose level greater than 200 mg/dL or a fasting plasma glucose (FPG) level greater than 126 mg/dL, which is confirmed on a different day. Hemoglobin A_{1c} (HbA_{1c}) measurement is not recommended for diagnosis. Impaired fasting glucose (IFG) is diagnosed when the FPG is 100-125 mg/dL.

Guidelines are most useful when they are available to answer questions at the point of care. A version of this guideline for the Palm OS is available at http://www.diabetes.org/for-health-professionals-and-scientists/cpr.jsp

Screen for diabetes with an FPG every 3 years for patients aged 45 years and older. Consider screening individuals younger than 45 years who are overweight and who have another risk factor.

Standards of Medical Care

For individuals at high risk for developing diabetes, including those with IFG, regular physical activity and modest weight loss are important approaches that should be used to prevent the progression to diabetes.

For patients with diabetes, the HbA_{1c} goal is a value that is less than 7%. More stringent goals are appropriate for individual patients because data suggest that a lower HbA_{1c} level may lead to reduced diabetes-related complications. Lower targets for HbA_{1c} may increase the risk of hypoglycemia, however. Less stringent goals may be appropriate for patients with a history of severe hypoglycemia, for those with limited life expectancies, and for those in whom the long-term benefits of tight control do not outweigh the risk of hypoglycemia.

The prevention and management of diabetes-related complications are important. Blood pressure should be controlled to levels lower than 130/80 mm Hg. If medication is needed to reach that goal, a regimen that includes either an ACE inhibitor or an angiotensin II receptor blocker (ARB) should be employed.

LDL-cholesterol levels should be kept below 100 mg/dL. This year, the standards of care recommend statin therapy to achieve a 30%-40% reduction in LDL cholesterol in patients with diabetes who are older than 40 years and have a total cholesterol level higher than 135 mg/dL.

Aspirin should be used at a dosage of 75-162 mg/day as primary cardiovascular prevention in patients who are older than 40 years, or are otherwise at increased risk. Patients should, of course, be advised not to smoke.

In patients older than 55 years—with or without hypertension but with some other cardiovascular risk factor—consider prescribing an ACE inhibitor to reduce cardiovascular risk.

Screening for microalbuminuria with a spot sample for the albumin-to-creatinine ratio should be done on an annual basis. If microalbuminuria (greater than 30 mcg/mg) is present, an ACE inhibitor or an ARB should be prescribed. Finally, patients should have an annual ophthalmologic exam.

Excellent blood pressure and glucose control reduce the risk of progression of diabetic nephropathy and retinopathy. It should be noted that aspirin therapy does not prevent retinopathy or increase the risk of hemorrhage.

Because foot ulcers, osteomyelitis, and amputation are a few of the most common consequences of diabetic neuropathy, the early identification of risk factors and foot problems is important. Patients should have an annual examination of their feet, and be taught to examine their feet daily. They should also be counseled to wear well-fitting walking shoes.

This year, the standards of care recommend screening for peripheral vascular disease by asking about claudication, assessing pedal pulses, and considering an ankle-brachial index test.

The standards of care this year specifically address the treatment of elevated blood glucose levels in the hospital setting. Targeted glucose control in the hospital setting can lead to improvements in morbidity and mortality. General medical and surgical patients with blood glucose values above 220 mg/dL have higher infection rates during hospitalization. For patients who are not critically ill, the target premeal blood glucose level should be 90-130 mg/dL, with a postprandial level lower than 180 mg/dL. Critically ill patients should have premeal blood glucose levels as close as possible to 110 mg/dL and postprandial levels should generally be lower than 180 mg/dL. The standards go on to say that in critically ill patients, achieving such levels usually requires IV insulin. Conventional sliding-scale insulin regimens are no longer recommended as the sole means to control blood glucose levels in inpatients, and insulin regimens should be adjusted based on point-of-care glucose levels.

Implementation of the standards of care has been suboptimal, the document notes. Only 37% of adults with diabetes have HbA_{1c} levels lower than 7%; only 36% have blood pressure levels lower than 130/80 mm Hg; only 48% have a cholesterol level lower than 200 mg/dL. Just 7% of patients with diabetes achieve all three goals.

DR. RUSSELL and DR. SKOLNIK are associate directors of the family practice residency at Abington (Pa.) Memorial Hospital. Dr. Russell contributed to the Palm OS version of this guideline. Dr. Skolnik is the coauthor of the "Redi-Reference Clinical Guidelines."