Glycemic Goals Missed in Group Medical Clinics

BY DAMIAN McNAMARA

MIAMI BEACH — Group medical visits that combine education and individualized medication adjustment significantly improved hypertension among primary care patients with poorly controlled diabetes, compared with usual care, according to a randomized, controlled trial. This intervention, however, did not significantly improve glycemic control.

Although group medical clinics are widely used, this is the first study to assess the effectiveness of group medical clinics at simultaneously controlling blood pressure and glycemia, Dr. David Edelman said.

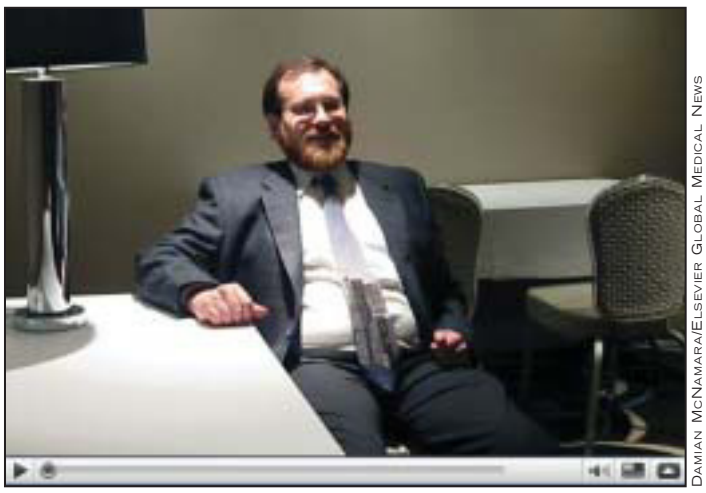
He and his colleagues randomized 239 patients with poorly controlled diabetes receiving primary care at the Durham Veterans Affairs Medical Center or the Richmond VA Medical Center, both in North Carolina. At baseline, all participants had a hemoglobin A_{1c} level of 7.5% or more and hypertension, defined as blood pressure above 140 mm Hg systolic or 90 mm Hg diastolic. Mean age of the patients was 62 years, 59% were African American, and 96% were men.

A total of 133 patients received the group intervention and 106 got usual care. Mean systolic blood pressure at baseline was 152 mm Hg in the intervention cohort and 154 mm Hg in the usual care group; mean HbA_{1c} was 9.2% in both groups. The intervention was in addition to usual care, Dr. Edelman said at the annual meeting of the Society of General Internal Medicine.

In the intervention arm, a nurse or certified diabetes educator facilitated a group educational session every 2 months for 1 year.

During these sessions, a primary care doctor and a pharmacist met in a separate room to review blood pressure and HbA_{1c} measurements and to make individual medication adjustments. Following the group discussion, each patient met individually with either the primary care doctor or pharmacist. Qualitative data indicated that patients "really liked the additional access to a health care provider," said Dr. Edelman, an investigator at the Center for Health Services Research in Primary Care at the Durham VA Medical Center. He is also on the general internal medicine faculty at Duke University.

A total of 89% of patients completed follow-up. Intervention patients had significantly greater improvements in systolic blood pressure, compared with controls. At 6 months, the intervention patients had a mean 14.5 mm Hg decrease in systolic blood pressure, compared with 7.2 mm Hg for usual care patients. At 12 months, mean decreases were 14.1 mm Hg in the intervention patients and 6.2 mm Hg in the usual care group.



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Group intervention improved blood pressure, but not glycemic control, Dr. David Edelman said in a video interview.

After adjustments, there was a statistically significant overall decrease of 7.2 mm Hg between groups, favoring the group medical clinic participants. Most of the difference was seen in the first 6 months, Dr. Edelman said.

The HbA_{1c} findings were "not as promising." There was an average 0.9% improvement in the intervention group, "which we would have patted ourselves on the back for, had we not had a control group, which saw 0.6% improvement," Dr. Edelman said. It might be easier to treat and change blood pressure than to treat and change HbA_{1c}, especially in patients with poorly controlled diabetes, he said. "It could be these refractory patients are a special challenge."

"We are working on the possibility of co-intervention" to explain the disparity in results, Dr. Edelman said. Because the primary care physicians were not blinded to group assignment, "it's possible that when they found a patient randomized to control [and] wildly out of control … they may have prescribed something else. It's reasonable and possible [that] there was more co-intervention on HbA_{1c} than [on] blood pressure."

The study was funded by the Department of Veterans Affairs, and Dr. Edelman did not disclose any conflicts of interest. ■

To watch a video interview of Dr. Edelman, go to www.youtube.com/user/ClinicalEndoNews.

Adiponectin Level Predicts Risk for Type 2 Diabetes

BY MARY ANN MOON

High plasma adiponectin levels consistently correlate with lower risk for type 2 diabetes across many different populations, according to a literature review.

This finding places adiponectin "among the strongest and most consistent biochemical predictors of type 2 diabetes," said Dr. Shanshan Li of Harvard School of Public Health, Boston, and associates.

The researchers performed a literature review and meta-analysis of 13 prospective studies that recorded adiponectin levels from blood samples collected before the onset of diabetes and followed study subjects for at least 1 year to track the development of the disease. There were 14,598 subjects all together, of whom 2,623 developed type 2 diabetes.

The pooled analysis showed that the relative risk of type 2 diabetes was 0.72 per 1–log mcg/mL increment in adiponectin levels, a highly significant result. "We observed a substantial inverse association between plasma adiponectin level and incidence of type 2 diabetes. Risk of type 2 diabetes appeared to decrease monotonically with increasing adiponectin levels.

"The association was consistent for whites, East Asians, Asian Indians, African Americans, and Native Americans," Dr. Li and colleagues reported (JAMA 2009;302:179-88).

The correlation also was consistent despite substantial differences in study populations and methods, remaining strong despite the use of different adiponectin assays, methods of ascertaining diabetes, durations of follow-up, mean body mass index of subjects, and proportions of male and female subjects.

Although this meta-analysis could not determine whether low adiponectin levels exert a causal effect on diabetes or are simply a marker of risk, "the consistency of the association across diverse populations, the dose-response relationship, and the supportive findings in mechanistic studies indicate that adiponectin is a promising target for the reduction of risk of type 2 diabetes," the investigators noted.

"Recent studies have shown that adiponectin levels can be increased through pharmaceutical and lifestyle interventions," they added.

The investigators did not disclose any potential financial conflicts of interest. ■

Sustained Hyperglycemia Bouts Often Go Untreated

BY RENÉE MATTHEWS

Patients with diabetes often experience periods of sustained hyperglycemia that are not addressed by intensified or appropriate treatment.

Of 5,070 patients at a Michigan multispecialty practice who began oral monotherapy (sulfonylurea or metformin) for diabetes, 1,386 incurred a period of sustained hyperglycemia—defined as two hemoglobin A_{1c} levels above 8% within 90 days—during follow-up (Diabetes Care 2009;32:1447-52).

Patients' average age was just over 60 years, 48% were female, and 37% were African American.

Most (60%) had employer-sponsored health insurance; 52% were on a sulfonylurea, 45% took metformin, and 4% were on other therapies.

The researchers looked at mean number of days to sustained hyperglycemia and the factors associated with it in the monotherapy group, as well as factors associated with getting appropriate care for these patients. Appropriate care was defined as either HbA_{1c} of 7% or less or therapy intensification such as increasing the dose of the original oral agent, adding another oral agent, changing the oral agent class, or adding insulin.

The findings showed that 8% of the patients incurred sustained hyperglycemia in the first year and that by 5 years, 38% had done so. Increasing age and HbA_{1c} levels, and, forAfrican Americans, starting on sulfonylurea rather than metformin, increased the risk of sustained hyperglycemia, whereas medication adherence and greater income reduced the risk, wrote the authors, led by Jennifer E. Lafata, Ph.D., of the Center for Health Services Research in Detroit.

Of those with sustained hyperglycemia, there was a median lapse of 3.9 months before they received appropriate care, with 59% receiving such care within 6 months. However, by 1 year, 25% had not received appropriate care, and at the end of 2 years, 11% still had not received it. Without medication intensification, fewer than 5% of patients returned to glycemic control.

Time to receiving appropriate care was related to income (higher salary, less delay). Patient adherence, a recent hospital admission, and visits to a primary care physician or an endocrinologist also bolstered access to care. In addition, patients with higher HbA_{1c} levels tended to received appropriate care sooner.

The research was funded by Sanofi-Aventis. Dr. Lafata disclosed that she is a member of the Abbott Health Policy Advisory Board and receives research funding from Teva Neuroscience. ■