

Antidepressant Lowers HbA_{1c} and Systolic BP

BY CAROLINE HELWICK

In a small study of low-income, diabetic African American and Hispanic adults diagnosed with depression, a popular antidepressant not only significantly improved hemoglobin A_{1c}, but also significantly decreased systolic blood pressure.

In the double blind, randomized trial conducted by Dr. Diana Echeverry and her colleagues at Charles Drew University, Los Angeles, 75 patients in an L.A. County diabetes clinic who were diagnosed with depression and had HbA_{1c} levels of at least 8% were randomized to receive 50-100 mg sertraline or placebo for 6 months.

HbA_{1c} levels fell significantly in both groups, but the decrease in the sertraline group was more than twice that of the placebo group, at -2.0% and -0.9%, respectively. Systolic blood pressure also

fell significantly in both groups, but once again, more so in the sertraline group (-15 mm Hg) than in the placebo group (-6 mm Hg), the researchers wrote.

Hamilton Depression Scale (HAM-D) scores fell significantly in both groups, but no difference was seen between them, the researchers reported. A very significant correlation of 0.45 (P less than 10^{-6}) was observed between the

changes in HbA_{1c} levels and HAM-D scores in the entire group. In addition, Dr. Echeverry and her colleagues found there were no differences in pain scores or quality of life (Diabetes Care 2009 Sept. 3 [doi:10.2337/dc09-0785]).

Dr. Echeverry and her colleagues wrote that the results suggested “an effective approach to the time constraints hindering primary care physicians caring for patients in poor glycemic control in whom de-

pression is suspected, especially in low-income, minority populations,” they wrote, adding that although these patients may traditionally be more difficult to treat successfully, the researchers wrote, “in this manner, both depression and uncontrolled diabetes and systolic blood pressure may be improved.”

The robust effect of sertraline in lowering HbA_{1c} levels differs from most other studies of depression in diabetes, they wrote. The similar improvements in depression, quality of life, and pain scores observed within the two groups might be explained by the frequent interaction with the study coordinator,

i.e., a placebo effect in the control group.

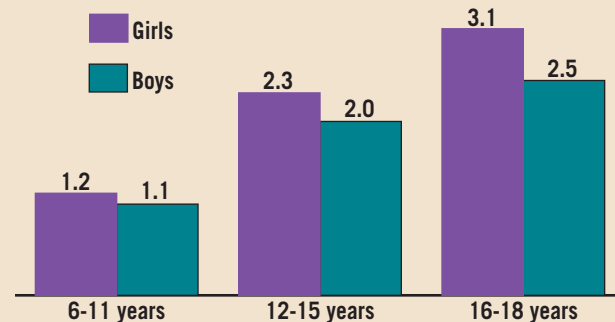
The study was funded by the University of California, Los Angeles, and the National Institutes of Health. The researchers reported that they had no conflicts of interest. ■

The decrease in HbA_{1c} in the sertraline group was more than twice that of the placebo group. Systolic blood pressure also fell significantly in the sertraline group, compared with placebo.

DATA WATCH

Prevalence of Antidiabetic Medication Use Among U.S. Children and Adolescents

(per 1,000)



Note: Based on data sets managed by CVS Caremark. Rates were measured monthly from Sept. 2004 through June 2007, with a population of 5.3-6 million individuals per month. Source: Arch. Pediatr. Adolesc. Med. 2009;163:357-64

ELSEVIER GLOBAL MEDICAL NEWS

Metabolic Syndrome Predicted Type 2 Diabetes in Japanese

BY CAROLINE HELWICK

The presence of metabolic syndrome significantly increased the risk of incident type 2 diabetes independent of impaired fasting glucose, researchers studying a Japanese population have found.

The finding suggests that metabolic syndrome can be used to identify persons at high risk for developing the disease, they said.

The study adds to a body of data showing mixed results for the value of metabolic syndrome as a predictor of type 2 diabetes. One cohort study showed it to be superior to simple impaired fasting glucose alone, while others have found metabolic syndrome to be comparable or inferior to IFG alone. Further, most previous studies were performed in Western populations; the present study adds information in an Asian cohort (Diabetes Care 2009 Sept. 3 [doi:10.2337/dc09-0896]).

Led by Dr. Naoko Mukai and associates at Kyushu University, Fukuoka, Japan, the study comprised 1,935 nondiabetic subjects aged 40-79 years who were enrolled in an ongoing population-based study of cardiovascular disease and its risk factors between 1988 and November 2002 in the town of Hisayama on Kyushu Island. The subjects were followed up prospectively for a mean of 11.8 years. At baseline and during regular examinations, the subjects underwent a fasting oral glucose tolerance test.

During follow-up, 286 subjects (145 men and 141 women) developed diabetes. Compared with those who did not have metabolic syndrome, the multivariate-adjusted risk for incident diabetes was significantly higher in subjects with metabolic syndrome

in both sexes, even after adjustment for confounding factors that included age, family history of diabetes, total cholesterol, alcohol intake, smoking habits, and regular exercise. Hazard ratios were 2.58 for men and 3.69 for women.

Among the individual components of metabolic syndrome, impaired fasting glucose was the strongest predictor of diabetes in both sexes, raising the risk more than threefold.

In normal fasting glucose subjects, risk increased significantly according to number of metabolic syndrome components. Metabolic syndrome defined without the fasting plasma glucose component was also a significant risk factor.

To the authors' knowledge, this is the first report indicating that metabolic syndrome is associated with future diabetes for both sexes in a general Japanese population.

The authors mentioned two possible study limitations, the first being that metabolic syndrome diagnosis was based on a “a single measurement of its components at baseline. ... The risk factor levels might have changed during the follow-up due to modifications in lifestyle or medication.” Also, data on antilipidemic medication use was not included in the study.

However, the researchers wrote: “These biases have the potential to underestimate the association between [metabolic syndrome] and incident [type 2 diabetes], and thus the true impact of [metabolic syndrome] on the occurrence of [type 2 diabetes] may be stronger than that shown in our findings.”

The authors said they had no relevant conflicts of interest. ■

Insulin Pump Is Suitable for Many Diabetic Children

BY ROBERT FINN

SAN FRANCISCO — Many children with diabetes do quite well on insulin pumps, but patient selection is important, according to Dr. Stephen E. Gitelman.

“We studied toddlers. We studied teens. It turns out [pumps] can work well on any age group,” he said at a meeting on clinical pediatrics sponsored by the University of California, San Francisco. “The people that do best are those where the child is motivated to use the pump and there's a supportive and involved family who's going to help him.”

Pumps can work well in toddlers with newly diagnosed type 1 diabetes, or teenagers who have been giving themselves injections for years. Pumps are suitable in children with low HbA_{1c} or high HbA_{1c} levels. And pumps are even suitable in some children with type 2 diabetes who have failed oral medication, said Dr. Gitelman, a pediatric endocrinologist at the university.

Although a pump may provide more glycemic control than is necessary in the early course of diabetes, Dr. Gitelman said that there is evidence that tighter glycemic control may preserve beta-cell function.

Dr. Gitelman offered several tips for selecting suitable pump candidates. The successful pediatric pump user will have already shown solid diabetes self-management skills (e.g., the child will be monitoring glucose

four or more times each day and will be counting carbohydrates).

The child needs to have sufficient manual dexterity to operate the pump, and cannot be technophobic.

Dr. Gitelman said about one-third of the children with diabetes in his practice are using the pump successfully. Most children are eager for the pump because they know it means no more shots. Other benefits include better overall control, less risk of hypoglycemia, and improved quality of life.

However, use of the pump carries risks, he said. For example, infections at the catheter placement site can be a problem. The pump is used only with short-acting insulin. If something goes wrong with the pump or the catheter gets dislodged, the child can be in diabetic ketoacidosis within just 4-6 hours.

And some children don't like wearing the device, which is difficult to conceal. When people notice it they frequently ask questions, requiring the child to launch into a discussion of diabetes.

And then there are the financial issues. A pump costs \$5,000-\$6,000, and supplies run about \$100 per month. Fortunately, most insurers pick up this cost for children, he said.

“The more we use pumps, the more we start to feel that the bottom line is anyone who is on insulin therapy could benefit from them,” said Dr. Gitelman, who did not disclose any conflicts of interest. ■