

# Retinopathy Tied to Diet In Type 1

BY MARY ANN MOON

Among African Americans with type 1 diabetes, high-caloric and high-sodium intakes were significantly and independently associated with progression of retinopathy, a longitudinal study has shown.

Restricting one's diet might be key to the preservation of vision in this patient population, wrote Dr. Monique S. Roy of the Institute of Ophthalmology and Visual Science at the New Jersey Medical School, Newark, and associates.

They noted that the role of diet as an important determinant of retinopathy progression had been assessed in only a few previous studies that did not include black populations.

Dr. Roy and associates analyzed data from a larger study of 725 African Americans with type 1 diabetes. Their analysis comprised 469 people (280 women and 189 men) who had participated in the 6-year follow-up study from 1999 through 2004. At baseline, the women had a mean age of 28 years, the men 27 years; they had completed a detailed food-frequency questionnaire; and they had undergone complete eye examinations, which were then repeated at follow-up. Baseline caloric intake was analyzed by quartiles. Total mean daily caloric intake was 2,310 and 1,706 kcal for men and women, respectively.

After adjustment for diabetic retinopathy clinical risk factors, high caloric intake was significantly associated with progression to proliferative diabetic retinopathy, macular edema, and severe retinal hard exudates (*Arch. Ophthalmol.* 2010;128:33-9).

These findings are consistent with those of a large clinical trial of predominantly white patients that total caloric intake is one of the strongest risk factors for retinopathy progression (*MedGenMed.* 2005;7:3). "As in our study, total caloric intake was also significantly and positively associated with higher glycated hemoglobin levels, one of the strongest risk factors for progression of diabetic retinopathy," the authors wrote.

"The increased metabolic burden and oxidative stress associated with hyperglycemia and dyslipidemia present in diabetes may be mechanisms underlying" this association. "The retina is particularly susceptible to oxidative stress because of its high lipid content," they wrote, adding that high sodium intake also was significantly and independently associated with the progression of diabetic retinopathy. The study subjects had a mean sodium intake of 3,235 mg daily compared with the 2,400 mg recommended by the American Diabetes Association.

The study was supported by the National Eye Institute, Bethesda, Md., and Research to Prevent Blindness Inc., New York. No financial conflicts of interest were reported. ■

# CV Risk Factors Below Goal in Diabetics

BY BRUCE JANCIN

SNOWMASS, COLO. — Optimal control of cardiovascular risk factors in diabetic patients in the community setting remains an elusive goal, according to the most recent data from the Framingham Heart Study.

Individuals with diabetes have a two- to threefold greater rate of cardiovascular disease than do those without the disease. Aggressive control of their car-

diovascular risk factors is essential to overcome this markedly increased risk.

But the Framingham experience demonstrates that it is not happening, Dr. Patrick O'Gara observed at a conference sponsored by the American College of Cardiology.

A bright spot is the low prevalence of cigarette smoking, down to just under 13% during 2000-2005 in 60-year-olds with diabetes in Framingham. That's even lower than the 17% smoking rate

among comparable-age individuals without diabetes.

This rejection of smoking by the Framingham diabetic population over the last 3 decades has been particularly impressive: The prevalence among 60-year-olds with diabetes has steadily fallen from nearly 42% during 1970-1979, to 27.5% in 1980-1989, 18% in 1990-1999, and down to 12.8% in the first half of the last decade, noted Dr. O'Gara of Brigham and Women's Hospital, Boston.



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#### Select Safety Information

Hypoglycemia is the most common adverse effect associated with insulins, including Humalog.

When used as a mealtime insulin, Humalog should be given within 15 minutes before or immediately after a meal.

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Hypertension is another story altogether. The prevalence of hypertension among 60-year-olds with diabetes in 2000-2005 was 87%, more than twice that of nondiabetic individuals. Moreover, the prevalence of hypertension among the diabetic population was essentially unchanged since 1970.

The rate of controlled hypertension was less than 27% in 60-year-old diabetic men and women in Framingham during 2000-2005, compared with 45.5% in those without diabetes (Circulation 2009;120:212-20).

Only 40% of diabetic individuals

with high LDL cholesterol had it controlled to guideline target levels in 2000-2005. That's better than the 32% rate among those without diabetes, and a huge improvement over the 13.5% rate in diabetic 60-year-olds during 1990-1999, but a far cry from what is required to erase the high excess cardiovascular risk among the diabetic population, Dr. O'Gara noted.

The prevalence of obesity among diabetic 60-year-olds in 2000-2005 was more than 67%, up sharply from 46% during the prior decade. The rise in obesity among nondiabetic 60-year-

olds was considerably less dramatic, from a 26% prevalence in 1990-1999 to 33% in the most recent data.

"I think we all understand the magnitude of the problem and that some of the solutions to this problem are larger than what we can do on an individual basis, but I encourage us all to keep our eyes on the prize," Dr. O'Gara concluded.

The Framingham Heart Study is funded by the National Heart, Lung, and Blood Institute. Dr. O'Gara reported having no relevant financial interests. ■

## Booklet on Diabetes Care Available

The National Diabetes Education Program offers an evidence-based booklet outlining the latest principles of diabetes care. It includes information on identifying and diagnosing diabetes, care and education of patients, and preventing complications. "Guiding Principles for Diabetes Care" can be downloaded from the Web site at [www.yourdiabetesinfo.org](http://www.yourdiabetesinfo.org). For more information, contact the NDEP by calling 1-888-693-6337. ■

### Indication

Humalog (insulin lispro injection [rDNA origin]) is for use in patients with diabetes mellitus for the control of hyperglycemia. Humalog should be used with longer-acting insulin, except when used in combination with sulfonylureas in patients with type 2 diabetes.

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Humalog is contraindicated during episodes of hypoglycemia and in patients sensitive to Humalog or one of its excipients.

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Due to the short duration of action of Humalog, patients with type 1 diabetes also require a longer-acting insulin to maintain glucose control (except when using an insulin pump). Glucose monitoring is recommended for all patients with diabetes.

The safety and effectiveness of Humalog in patients less than 3 years of age have not been established. There are no adequate and well-controlled clinical studies of the use of Humalog in pregnant or nursing women.

**Starting or changing insulin therapy should be done cautiously and only under medical supervision.**

### Hypoglycemia

Hypoglycemia is the most common adverse effect associated with insulins, including Humalog. Hypoglycemia can happen suddenly, and symptoms may be different for each person and may change from time to time. Severe hypoglycemia can cause seizures and may be life-threatening.

### Other Side Effects

Other potential side effects associated with the use of insulins include: hypokalemia, weight gain, lipodystrophy, and hypersensitivity. Systemic allergy is less common, but may be life-threatening. Because of the difference in action of Humalog, care should be taken in patients in whom hypoglycemia or hypokalemia may be clinically relevant (eg, those who are fasting, have autonomic neuropathy or renal impairment, are using potassium-lowering drugs, or taking drugs sensitive to serum potassium level).

**For additional safety profile and other important prescribing considerations, see accompanying Brief Summary of full Prescribing Information.**

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