

## Hypertension Common at All Ages in Type 2 Diabetes

BY MIRIAM E. TUCKER  
Senior Writer

WASHINGTON — The increased risk for essential hypertension in patients with type 2 diabetes is apparent throughout the entire lifespan, Dr. Scott J. Jacober and his associates reported in a poster at the annual scientific sessions of the American Diabetes Association.

The relationship is exceptionally strong among children and adolescents, said Dr. Jacober, who was with Lilly Research Laboratories, Indianapolis, at the time of the study.

Essential hypertension and type 2 diabetes often coexist, but this retrospective study of a nationwide electronic medical records database is believed to be the first to examine the prevalence of essential hypertension by age group among individuals with and without diabetes, he noted.

The database contained more than 4 million patients, and the study population, from 49 states during 1996-2005, comprised 231,492 individuals with a physician's diagnosis of type 2 diabetes in their records.

Patients with type 1 diabetes were excluded. The study also included 1,219,047 people who did not have type 2 diabetes.

Overall, essential hypertension was diagnosed in 63% of patients with type 2 diabetes, compared with 40% of those without.

The increase in risk was less striking in adults than in children and adolescents, but it remained statistically significant for all adult age groups even after adjustment for age, gender, geographic region, and five comorbid conditions (obesity, hyperlipidemia, nephritis, ischemic

heart disease, and other forms of heart disease).

Among the 2,808 young adults aged 20-29, essential hypertension was present in 21% of those with type 2 diabetes vs. 7.3% of those without, with a 50% increased risk for essential hypertension after adjustment for other factors.

Overall, the prevalence of essential hypertension among diabetic adults increased by decade of life from 36% at ages 30-39 to 70% at ages 70-79, dropping slightly thereafter to 67% among people over 80 years of age.

Among the nondiabetics, essential hypertension was present in 19.5% of the 30- to 39-year-olds, rising to 60% for those aged 70-79, and again dropping slightly thereafter to 58%. The adjusted odds ratio by decade between the diabetics and nondiabetics remained the same, at 1.3, for adults aged 30 and older, Dr. Jacober and his associates reported.

The risk differential was striking among children younger than age 12 years. Essential hypertension was present in 26.3% of the 219 children with type 2 diabetes, compared with just 0.5% of the 49,984 without, for an unadjusted odds ratio of 56.1.

Even after adjustment for the other risk factors, children aged 0-11 years with type 2 diabetes still were more than 20 times more likely than those without to have essential hypertension, Dr. Jacober and his colleagues reported.

Among adolescents aged 12-19 years, essential hypertension was present in 9.7% of the 691 with type 2 diabetes vs. 1.8% of the 61,129 without. In this age group, the unadjusted odds ratio was 4.4 and the adjusted odds ratio was 2.3, also highly significant. ■

## Hypertension Shown to Correlate With Hyperglycemia in Diabetics

BY ERIK GOLDMAN  
Contributing Writer

MADRID — Fasting blood glucose levels appear to be higher in diabetic patients with poorly controlled blood pressure than in those with well-controlled pressure, Dr. Miroslav Soucek said at the annual meeting of the European Society of Hypertension.

This observation was based on a survey of more than 2,200 patients from 150 primary care practices throughout the Czech Republic. The primary objective of the study was to determine the prevalence of hypertension in the Czech population, and the extent to which physicians there are able to help their patients achieve blood pressure control targets as outlined in current ESH guidelines, Dr. Soucek said in presenting the findings in a poster.

Each participating physician recorded thorough case data from 15 consecutive patients aged at least 45 years, irrespective of the reason for each patient's visit. The idea was to get a representative sampling of the health status of all patients seeking care in primary care offices. The investigators defined hypertension as blood pressures above 140/90 mm Hg.

The pressure measurements were taken from patients in the sitting position, and participants were instructed to take three separate measurements and average the values of the last two measurements. Dr. Soucek and his colleagues obtained data from 2,211 patients with a mean age of 62 years.

Of the entire cohort, 78% of the patients were defined as hypertensive; of the 403 patients with diabetes, 75% had hypertension. Only 18% of all patients being treated for hypertension were considered well controlled (pressures under 130/80 mm Hg); the rate for diabetics was 6%.

Blood pressure was uncontrolled in almost 30% of the diabetic patients with hypertension even though they were on at least three

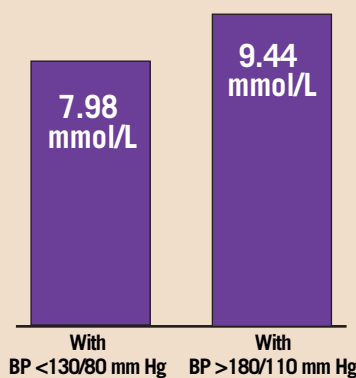
antihypertensive drugs, Dr. Soucek noted.

The most striking finding of this study—one that surprised the investigators themselves—was the correlation between poor pressure control and increased fasting blood glucose. "The average fasting blood glucose showed a gradual increase, with increasing blood pressure, from 7.98 mmol/L in diabetics with blood pressure under 130/80 mm Hg to 9.44 in diabetic patients with blood pressures greater than 180/110 mm Hg," reported Dr. Soucek of the department of internal medicine, St. Anne University Hospital, Brno, Czech Republic.

The mechanism underlying this connection is not known, and it is too soon to tell if there is a causal connection, or if the elevated pressure and the increased blood glucose are co-occurring manifestations of a deeper metabolic dysregulation.

The clinical implication, however, is clear: Uncontrolled blood pressure in a diabetic patient may be a signal for uncontrolled glucose as well. These patients need even closer attention than nondiabetic hypertensives or diabetics who are not hypertensive, he said. ■

### Fasting Blood Glucose Levels in Diabetic Patients



Note: Based on a study of 2,211 patients.  
Source: Dr. Soucek

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## Treat Dyslipidemia Aggressively in Type 2 Diabetic Women

BY JANE NEFF ROLLINS  
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LOS ANGELES — Women with type 2 diabetes may be treated for dyslipidemia less aggressively than men, and therefore may be at higher risk of developing cardiovascular disease, Dr. Quyen Ngo-Metzger reported at the annual meeting of the Society of General Internal Medicine.

Coronary heart disease is a leading cause of death among women and among all patients with type 2 diabetes. Diabetes confers a four times greater risk of coronary heart disease in women, compared with a doubling of risk in men, said Dr. Ngo-Metzger, an assistant professor of medicine at the University of California, Irvine.

Dr. Ngo-Metzger and her associates examined quality of care in a sample of

4,879 men and 7,654 women with type 2 diabetes (mean age 56 years) who were treated at 16 Kaiser Permanente Georgia practices in 2002.

About two-thirds of men and women received recommended hemoglobin A<sub>1c</sub> and cholesterol testing. About one-quarter of men (25%) and women (27%) achieved glycemic control (a hemoglobin A<sub>1c</sub> value of less than 7%).

Overall, 72% of men and 68% of women achieved LDL-cholesterol levels of less than 130 mg/dL; this difference was deemed statistically significant.

After adjustment of the data for age and

comorbid conditions in multivariate analyses, men were 26% more likely than women to have an LDL-cholesterol value of less than 130 mg/dL.

Among high-risk patients with known coronary heart disease, 86% of men and 76% of women had an LDL-cholesterol level of less than 130 mg/dL; after adjustment for age and comorbidity, men were twice as likely as women to have lipid control at this cutoff.

In addition, 56% of men and 44% of women had an LDL-cholesterol concentration of less than 100 mg/dL; after adjustment, men were 64% more likely than women to have achieved control using this

more stringent definition, she reported.

Overall, 43% of men were prescribed statins, compared with 37% of women; this difference was found to be statistically significant, Dr. Ngo-Metzger said.

It is unlikely that the gender disparities were due to lack of access to care, more comorbidities in women, gender differences in choosing to have cholesterol measured, or lower compliance with statins among women, she added.

"Clinicians need to be reminded of high coronary heart disease mortality among women with diabetes. Diabetic women with high cholesterol need to have their dyslipidemia treated aggressively," Dr. Ngo-Metzger said.

Further research is needed, she noted, to determine whether the differences reflect providers' prescribing habits or personal preferences among women and men. ■

**After adjustment for age and comorbid conditions, men were 26% more likely than women to have an LDL-cholesterol level of less than 130 mg/dL.**