UT SOUTHWESTERN MEDICAL CENTER NEWS

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UT Southwestern physicians bust myths about insulin

DALLAS – Aug. 11, 2009 – People diagnosed with type 2 diabetes often resist taking insulin because they fear gaining weight, developing low blood sugar and seeing their quality of life decline.

A study recently completed at UT Southwestern Medical Center suggests that those fears are largely unfounded and that patients and physicians should consider insulin as a front-line defense, as opposed to a treatment of last resort for non-insulin-dependent diabetes.

"We found that those patients who received insulin initially did just as well, if not better, than those who didn't receive insulin," said Dr. Ildiko Lingvay, assistant professor of internal medicine at UT Southwestern and lead author of the study appearing online and in a future issue of *Diabetes Care*. "This reinforces the idea that insulin treatment is a viable and safe option for patients, even in the very initial stages of their diagnoses.

"There is a myth out in the community, especially among certain ethnicities, that insulin is the last resort, and that somebody started on insulin is going to die," Dr. Lingvay added. "We as physicians are responsible for teaching the patient that that's not the case."

More than 20 million Americans have type 2 diabetes. Obesity, age and lack of exercise all increase the risk for the disease, which is characterized by a progressive loss of insulin-producing beta cells. Diabetes is the single greatest independent risk factor for heart disease, as well as a contributor to a number of other medical problems, including blindness and kidney disease.

The standard initial treatment for type 2 diabetes is a single drug, often metformin, followed by the addition of more oral hypoglycemic agents as needed.

For this study, researchers evaluated the effectiveness of offering insulin-based therapy as an initial treatment option to newly diagnosed type 2 diabetes patients. They compared rates of compliance, satisfaction, effectiveness, safety and quality of life among the patients, who were randomized to receive either the standard triple oral therapy or insulin plus metformin, an oral drug that helps regulate blood sugar levels.

The patients, ranging in age from 21 to 70 years old, had been diagnosed with type 2 diabetes within the past two months. Researchers recruited study participants from Parkland Memorial Hospital or by self-referral to the Clinical Diabetes Research Clinic at UT Southwestern between

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November 2003 and June 2005.

After enrollment, every participant followed an insulin and metformin regimen for three months. The patients were then randomized to continue taking insulin and metformin or begin the triple oral therapy regimen. All participants were checked monthly for the first four months, at six months after randomization, and every three months thereafter for three years. Of the 58 patients randomized, 24 of the insulin-treated group and 21 of the triple oral therapy group completed the study.

The researchers found that the patients taking insulin plus metformin had fewer low-blood-sugar, or hypoglycemic, events, gained less weight and reported high satisfaction with the insulin.

Dr. Lingvay said she hopes physicians use these findings as the rationale to offer insulin-metformin as the first, rather than last, line of defense.

"Modern medicine uses insulin as a very effective and safe treatment tool," she said. "With the new devices that we're using, giving yourself an insulin shot is not much harder than taking pills."

The data represent the first three years of a six-year study still under way at UT Southwestern. The next step, Dr. Lingvay said, is to begin analyzing how the insulin plus metformin and oral triple therapy regimens affect insulin production in beta cells.

Other UT Southwestern researchers involved in the study included Jaime Legendre, recipient of a Clinical Research Fellowship from the Doris Duke Charitable Foundation; Dr. Polina Kaloyanova, former fellow in endocrinology; Dr. Song Zhang, assistant professor of clinical sciences; and Beverley Adams Huet, assistant professor of clinical sciences.

The study was supported by Novo Nordisk Inc., the National Institutes of Health and the Doris Duke Charitable Foundation.

Visit http://www.utsouthwestern.org/endocrinology to learn more about clinical services in endocrinology at UT Southwestern, including treatment of diabetes.

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