SOUTHWESTERN NEWS

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Triple therapy fights type 2 diabetes without weight gain

DALLAS – June 26, 2004 – Type 2 diabetics who take two drugs in combination with insulin can effectively regulate their blood-sugar levels without the common side effect of weight gain, according to a new study by researchers at UT Southwestern Medical Center at Dallas.

Their findings appear in the July issue of *Diabetes Care*. It's the first study to analyze the safety and effectiveness of triple therapy using insulin, metformin and a drug in the thiazolidinedione family.

"We've shown spectacular control of blood sugar levels in the absence of weight gain, a common side effect of drug therapies for type 2 diabetes," said Dr. Philip Raskin, professor of internal medicine and senior author of the study. "And we can keep the blood sugar under control with relative ease. This is a step in the right direction for effectively treating type 2 diabetes."

Type 2 diabetics who use drug therapy typically take insulin and only one of the drugs. Those patients often reduce their blood sugar, or HbAlc, below the 7 percent limit suggested by the American Diabetes Association. But they also tend to gain weight and often have to increase their insulin doses, said Dr. Raskin.

In the UT Southwestern study, however, all 28 patients who used triple therapy reduced their blood-sugar levels below 7 percent without increasing insulin. Patients who took the therapy in a particular order, with the thiazolidinedione administered after a period of insulin and metformin use, actually showed a slight decrease in weight, along with lowering blood sugar. Almost 60 percent of all patients, regardless of what order the drugs were taken, reduced HbAlc levels below 6 percent.

Keeping blood-sugar levels under 6 percent or 7 percent reduces enormously the risk of developing eye disease, kidney disease and amputations, said Suzanne Strowig, a UT Southwestern faculty associate who led the study.

"We anticipated that the triple therapy would better control blood-sugar levels, but we

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never imagined that the patients wouldn't gain weight," Ms. Strowig said. "And the triple therapy can be done without more insulin and isn't complicated for patients to follow."

More than 15 million Americans have type 2, or adult-onset, diabetes. Factors that increase the risk of type 2 diabetes include obesity, age (over 45 years old), and lack of exercise. Over the years, the high blood sugar damages nerves and blood vessels, leading to complications such as heart disease, stroke, blindness and kidney disease.

Drugs like metformin and those in the thiazolidinedione family help the body regulate the amount of glucose (sugar) in the blood and decrease the amount of glucose made by the liver. They also help the body more effectively use its own insulin.

Efforts to achieve near normal control of blood sugar levels have resulted in an array of pharmaceutical interventions that not only lower blood glucose levels but also improve blood pressure and lipid levels in the blood, the UT Southwestern researchers reported.

"With many of these drugs, though, people have been unable to control their weight," Dr. Raskin said. "But put together, especially in a particular order, they show the most promise."

Dr. M. Larissa Aviles-Santa, assistant professor of internal medicine, also participated in the research, which was supported in part by a grant from Bristol-Myers-Squibb and Parke-Davis.

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