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OBESITY LINKED TO INCREASED KIDNEY DISEASE RISK IN TYPE 1 DIABETES

Washington, DC (Monday, December 4, 2006) — For patients with type 1 diabetes, obesity is an important risk factor for the development of diabetic kidney disease, reports a study in the January *Journal of the American Society of Nephrology*.

"Our results suggest that weight control is important in type 1 diabetes and that overweight patients with type 1 diabetes may need further evaluation and treatment," comments Dr. Ian H. de Boer of University of Washington, Seattle, lead author of the new study. "For these patients, lifestyle interventions such as exercise and diet may be useful in preventing kidney and heart disease."

Dr. de Boer and colleagues analyzed long-term follow-up data on nearly 1,300 patients with type 1 diabetes from the Diabetes Control and Complications Trial (DCCT). The DCCT was a landmark study showing that intensive insulin therapy, keeping blood sugar levels as close to normal as possible, lowers the risk of kidney disease and other diabetic complications. The current study focused on how obesity—specifically "central obesity," measured in terms of waist circumference—affected the risk of kidney disease.

During an average of nearly 6 years' follow-up, 8.4 percent of patients developed microalbuminuria—small amounts of the protein albumin in urine, the first sign of diabetic kidney disease. Risk was 4.5 percent for patients receiving intensive insulin therapy, compared to 12.8 percent for those receiving conventional insulin treatment.

The risk of microalbuminuria was significantly higher for patients with central obesity. The bigger the waist measurement, the higher the risk— for each ten-centimeter (four-inch) increase in waist circumference, risk of microalbuminuria increased by 34 percent. This relationship remained significant after adjustment for other risk factors, including intensive insulin therapy.

Obesity did not affect the rate of decline in kidney function, based on a test called creatinine clearance. Other risk factors for faster declines in creatinine clearance were older age, conventional insulin therapy, smoking, and poorer control of blood sugar levels.

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"Obesity is a growing problem for people with type 1 diabetes, but little was previously known about whether it affects risk for kidney disease in this group," says Dr. de Boer. "Our research shows that central obesity is associated with an increased risk of developing microalbuminuria, which is not only an important sign of kidney disease but also a marker of increased risk for cardiovascular disease." The results suggest that losing weight might help to reduce the risk of kidney and heart disease in obese patients with type 1 diabetes, although further study would be needed to confirm this.

The new report also provides an interesting follow-up to the DCCT and other studies showing the value of intensive insulin therapy. "Although intensive insulin therapy is associated with weight gain, our study showed again that, overall, intensive insulin therapy is protective against kidney disease in type 1 diabetes," Dr. de Boer adds. "In fact, intensive insulin therapy was associated with preservation of creatinine clearance over time, a benefit that had not been previously described."

The study entitled, "Central Obesity, Incident Microalbuminuria, and Change in Creatinine Clearance in the Epidemiology of Diabetes Interventions and Complications Study," will be available online at www.jasn.org beginning on Wednesday, December 6 and in print in the January issue of the *Journal of the American Society of Nephrology*.

The ASN is a not-for-profit organization of 9,500 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases.

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