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RISK OF KIDNEY DISEASE PROGRESSION IS HIGHER IN US THAN EUROPE

Faster Declines in Renal Function Linked to Obesity and Diabetes

Washington, DC (Wednesday, June 28, 2006) — The higher rate of end-stage renal disease (ESRD) in the United States compared with European countries, such as Norway, reflects a greater risk of worsening kidney disease in the U.S.—not a higher number of people in the early stages of chronic kidney disease (CKD), suggests a study in the August *Journal of the American Society of Nephrology.*

Led by Dr. Stein Hallan of St. Olav University Hospital in Trondheim, Norway, the researchers compared large population data bases including 65,000 Norwegian and 20,000 American subjects. Their goal was to understand the reason why the incidence of ESRD—permanent loss of kidney function requiring dialysis or kidney transplantation—is so much higher in the United States than Norway.

One possible explanation was a difference in the rate of chronic kidney disease (CKD)—gradual, irreversible declines in kidney function leading to ESRD and other complications. However, there was no difference in the overall prevalence of CKD, defined by having less than half of normal kidney function or persistently having protein in the urine: 11.0 percent in the United States and 10.4 percent in Norway.

However, once CKD was present, the risk of progression to ESRD was significantly higher for Americans—2.5 times higher than for Norwegians. This risk was little affected by adjusted analysis comparing white Americans to Norwegians of similar age, sex, and diabetes status.

American and Norwegian patients with ESRD were similar in most characteristics, including age and level of remaining kidney function when starting dialysis. However, the U.S. patients had strikingly higher rates of obesity and diabetes, two major and closely related kidney disease risk factors. "Obesity and physical inactivity lead to high blood pressure and type 2 diabetes, which are now the most important causes of ESRD," Dr. Hallan explains.

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In addition, the American patients made their first visit to a nephrologist (kidney specialist) significantly later—that is, at a lower level of kidney function. "Early referral to a nephrologist is important," says Dr. Hallan. "It often results in better control of diabetes and high blood pressure, as well as early and more adequate correction of anemia and disturbances in electrolyte balance. This reduces the rate of kidney disease progression, and in many patients postpones the start of dialysis."

Progressive kidney disease requiring dialysis is an increasingly common problem, with a major impact on health and health costs. Decisions about screening and other public health interventions require more data on the frequency and natural course of kidney disease. Previous studies have established the high rate of CKD in the United States—more reliable data are needed from European countries, where the prevalence of ESRD requiring dialysis is much lower.

"Our results show that the lower incidence of ESRD in Norway reflects a lower rate of progression from the early stages of CKD to dialysis, rather than a smaller pool of individuals at risk," Dr. Hallan concludes. "Although we did not evaluate pre-dialysis care directly, we think that strong programs to prevent diabetes and obesity and manage chronic kidney disease are needed to preserve the favorable situation in Norway and turn the tide on the current dialysis epidemic in the United States."

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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