Long-Term Allopurinol Improves CKD and Cardiovascular Outcomes

In patients with asymptomatic hyperuricemia, long-term treatment with allopurinol may slow the progression of chronic kidney disease (CKD) while reducing the risk of cardiovascular disease, reports the American Journal of Kidney Diseases.

In the original randomized trial, 113 patients with stable CKD were assigned to 2 years of allopurinol, 100 mg/day, or usual care. That study found a 47 percent reduction in progression of CKD in the allopurinol group, along with a decreased risk of cardiovascular events, reduced inflammatory markers, and fewer hospitalizations.

One hundred seven patients were followed up for as long as 5 additional years while they continued their assigned treatment. The rates of renal events (starting dialysis, doubling of serum creatinine, a 50 percent or greater reduction in estimated GFR, or a combination of these) and cardiovascular events were compared between groups.

During long-term follow-up, 12 of 56 patients in the treatment group stopped taking allopurinol, and 10 of 51 control individuals started allopurinol. At a total follow-up time of 84 months, renal events occurred in nine patients in the allopurinol group versus 24 in the control group.

The hazard ratio for renal events with allopurinol was 0.32, after adjustment for age, sex, baseline kidney function, uric acid level, and use of renin-angiotensin-aldosterone system blockers. The allopurinol group was also at lower risk of cardiovascular events: 16 versus 23 patients, adjusted hazard ratio 0.43.

The results suggest a twofold increase in the risk of sudden death after prescriptions for TMP-SMX in older adults taking spironolactone. This risk likely reflects “terminal hyperkalemia” resulting from the known interaction between these two drugs. The study also notes a less pronounced but still significant interaction with ciprofloxacin [Antoniou T, et al. Trimethoprim-sulfamethoxazole and risk of sudden death among patients taking spironolactone. CMAJ 2015; 187:E136–E143].

Social Network Affects Diabetic Kidney Disease Risk

Lifestyle factors other than diet—including a high “social network score” (SNS)—are associated with a lower risk of chronic kidney disease (CKD) in patients with type 2 diabetes, reports a study in Kidney International.

The study included 6972 patients with type 2 diabetes but without macrovascular disease, representing all such patients enrolled in the “Ongoing Telmisartan Alone and in Combination with Ramipril Global Endpoint Trial” (ONTARGET). During 5.5 years of follow-up, CKD progression was assessed in terms of more than a 5 percent annual decline in GFR, development of ESRD, microalbuminuria, or macroalbuminuria. Various lifestyle and social factors were evaluated for association with CKD progression, including tobacco and alcohol use, physical activity, hypertension, and SNS.

The hazard ratio for renal events was 0.88 for those with a higher SNS, the odds ratios were 0.89 and 0.78, respectively. Stress and financial worries were not related to CKD, but education was.

The risk of CKD was lower for patients with moderate alcohol consumption and those with regular physical activity. Information on modifiable risk factors is needed to lower the risk of progressive diabetic CKD, especially in the early stages. This study identifies lifestyle and social factors associated with a lower risk of CKD in high-risk diabetic patients—notably including a larger social network. This, along with physical activity and moderate alcohol intake, may be a useful target for disease prevention efforts [Dunkerley D, et al. Modifiable lifestyle and social factors affect chronic kidney disease in high-risk individuals with type 2 diabetes mellitus. Kidney Int 2015; 87:784–791].

High Mortality in Pediatric ESRD, but Lower with Transplantation

The 1-year mortality rates for children and adolescents with ESRD remain high but are substantially lower for patients receiving a kidney transplant compared with those who continue to receive dialysis, reports a study in the American Journal of Nephrology.

Using the United States Renal Data System database, the researchers created annual cohorts of period-prevalent pediatric (younger than 19 years) ESRD patients from 1995 to 2010. The cohorts averaged about 1200 maintenance hemo-

dialysis patients—60 percent using hemodialysis and 40 percent using peritoneal dialysis—and 1100 transplant recipients. Trends and patterns in 1-year mortality were assessed, including the effects of type of treatment and age group.

About half of the patients were aged 15 to 18, and 55 percent were male. Congenital, reflux, or obstructive causes of ESRD were present in 55 percent of patients and glomerulonephritis in 30 percent.

The unadjusted 1-year mortality per 100 patient-years was about 4.4 in dialysis patients, compared with 0.7 in transplant recipients. Except for a modest decline for peritoneal dialysis patients, the 1-year mortality rates did not consistently decline during the study period. On adjusted analysis, the odds of yearly survival were better for older patients, male patients, and those with glomerulonephritis as the cause of ESRD. Within yearly cohorts, race did not affect the odds of survival.

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