

Healthy people with elevated levels of uric acid are at risk of developing kidney disease

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Elevated uric acid levels in the blood indicate an increased risk of new-onset kidney disease, according to a study appearing in the December 2008 issue of the *Journal of the American Society Nephrology (JASN)*. The results suggest that it may be appropriate to prescribe uric acid-lowering drugs, such as allopurinol and probenecid, to these otherwise healthy individuals.

High levels of uric acid in the blood, called hyperuricaemia, can be caused by a diet high in purines or by impaired excretion by the kidneys. Studies have linked hyperuricaemia to kidney failure, hypertension, and cardiovascular disease, but most of these studies have been conducted in people with metabolic abnormalities.

Rudolf Obermayr, MD, of Sozialmedizinisches Zentrum Ost der Stadt Wien, in Vienna, Austria, and his colleagues wished to determine the risks of elevated levels of uric acid in healthy individuals, particularly as they relate to kidney disease.

The investigators recruited 21,475 healthy volunteers from the general Viennese population, performing an initial examination and following up with three examinations over an average of seven years. Volunteers were categorized as having normal blood levels of uric acid, slightly elevated levels, or elevated levels. During follow-up examinations, the researchers assessed patients' glomerular filtration rates, noting that low rates indicate decreased kidney function.

Dr. Obermayr's team found that with increasing uric acid groups, glomerular filtration rates decreased. After eliminating all other potential risk factors that might contribute to kidney disease, the researchers determined that individuals in the slightly elevated uric acid group were 1.26 times as likely to develop kidney disease as those in the low uric acid group. The odds of developing kidney disease among volunteers in the elevated uric acid group were 1.63 times greater than that of individuals in the low uric acid group.

The risk of developing new-onset kidney disease was more evident in women than in men. It also was particularly high in individuals with hypertension. Dr. Obermayr noted that this finding may be important from a public health viewpoint, because the prevalence of prehypertension and hypertension in adults is approximately 60%, and the prevalence of hyperuricaemia is approximately 17%.

According to Dr. Obermayr, this study indicates that clinical trials assessing the potential of uric acid–lowering drugs for preventing kidney disease should be initiated. These agents, such as allopurinol and probenecid, are available worldwide and are safe and inexpensive.

The article, entitled "Elevated Uric Acid Levels Increase the Risk for New-Onset Kidney Disease," will appear online at jasn.asnjournals.org/ on Wednesday, September 17, 2008, and in the December 2008 print issue of JASN.

Source: American Society of Nephrology

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