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**Uric acid and inflammation in kidney disease**

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Asymptomatic hyperuricemia is frequently observed in patients with kidney disease. Although a substantial number of epidemiologic studies have suggested that an elevated uric acid level plays a causative role in the development and progression of kidney disease, whether hyperuricemia is simply a result of decreased renal excretion of uric acid or is a contributor to kidney disease remains a matter of debate. Over the last two decades, multiple experimental studies have expanded the knowledge of the biological effects of uric acid beyond its role in gout. In particular, uric acid induces immune system activation and alters the characteristics of resident kidney cells, such as tubular epithelial cells, endothelial cells, and vascular smooth muscle cells, toward a proinflammatory and profibrotic state. These findings have led to an increased awareness of uric acid as a potential and modifiable risk factor in kidney disease. Here, we discuss the effects of uric acid on the immune system and subsequently review the effects of uric acid on the kidneys mainly in the context of inflammation.