CKD linked to increased stroke and embolism risk in AF

When chronic kidney disease (CKD) and atrial fibrillation (AF) occur together, the rates of stroke, thromboembolic events, and hemorrhage are higher than with AF alone, reports the New England Journal of Medicine.

A large US cohort study, from 1997 to 2008 were used to identify 132,372 patients with nonvalvular atrial fibrillation. The risks of stroke, systemic thromboembolism, and bleeding were compared for patients with and without CKD. The risks and benefits of treatment with aspirin and warfarin were also compared.

Of this population of AF patients, 2.7 percent had non–end-stage CKD and 0.7 percent had end-stage disease requiring renal replacement therapy. The risks of stroke and systemic thromboembolism were elevated in both kidney disease groups; hazard ratio 1.49 for those with non–end-stage CKD and 1.83 for those receiving renal replacement therapy. The excess risks associated with kidney disease were lower for patients receiving warfarin, but not aspirin.

The bleeding risk was also increased for patients with kidney disease: hazard ratio 2.24 for non–end-stage CKD and 2.70 for disease requiring renal replacement therapy. These risks were further increased for patients taking warfarin, aspirin, or both. In the non–end-stage CKD group, higher doses of loop diuretics were associated with increased bleeding risk.

Atrial fibrillation and CKD are both associated with increased rates of stroke or thromboembolism. The new study reports that both risks are significantly increased for patients with both diagnoses, compared with AF alone. Warfarin can increase the risk of stroke or thromboembolism in patients with CKD and AF, but bleeding risk is increased with warfarin, aspirin, or both (Olesen JB, et al. Stroke and bleeding in atrial fibrillation with chronic kidney disease. N Engl J Med 2012; 367:625–635).

Kidney stones increase risk of later kidney disease

A history of kidney stones carries a small but significant increase in the risk of loss of kidney function—ESRD—reports a study in the British Medical Journal.

Researchers reviewed the Alberca Kidney Disease Network database, the researchers identified about 27,000 adult patients who were free of ESRD or history of pyelonephritis at baseline. Nearly 2 million had available data on outpatient serum creatinine levels. During follow-up, one or more kidney stones developed in about 27,000 patients—a rate of 0.8 percent. Kidney stones were evaluated as a risk factor for adverse renal outcomes including incident ESRD, stage 3B to 5 chronic kidney disease (CKD), or sustained doubling of serum creatinine level.

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The rates of adverse renal outcomes during follow-up were 0.2 percent for
ESRD, 4.0 percent for stage 3b to 5 CKD, and 3.0 percent for doubling of serum creatinine. Compared with stone-free patients, those with even one episode of kidney stone recurrence had a 4.2 percent risk of all three outcomes: adjusted hazard ratio 2.16 for ESRD, 1.74 for CKD, and 1.94 for doubling of serum creatinine. The excess risk related to kidney stones appeared greater for women and for people younger than 50, although the association was significant for both sexes and all age groups. Absolute increases in risk were small: the unadjusted ESRD rate was 2.48 per million person-days in those with kidney stones versus 0.52 per million in those without stones.

Kidney stones are a common and potentially preventable problem. There are few data on their possible association with later kidney disease. This population-based study finds significant increases in the risk of ESRD and other adverse renal outcomes in patients with even a single episode of kidney stone. Absolute increases in risk are small. More research is needed to understand the mechanism of the associations and the best way to prevent kidney stones, particularly in young women [Alexander RT, et al. Kidney stones and kidney function loss: a cohort study. BMJ 2012; 345:e5287].