It’s time for kidney talk

When you see unexplained signs of kidney disease, think Alport syndrome. It can filter through a family.

Incurable disease

- Alport syndrome (AS) is a permanent, hereditary condition responsible for a genetically defective glomerular basement membrane, causing chronic kidney inflammation, tissue fibrosis, and kidney failure.
- Across the entire range of AS genotypes, patients are at risk of progressing towards end-stage kidney disease (ESKD).

Hidden signs

- Patients often go undiagnosed, as the clinical presentation of AS is highly variable and family history may be unavailable.
- Persistent, microscopic hematuria is the cardinal sign of AS and should prompt immediate diagnostic investigation—particularly when combined with any family history of chronic kidney disease.

Early action

- Expert guidelines published in the Journal of the American Society of Nephrology now recommend genetic testing as the gold standard for diagnosing Alport syndrome.
- Early AS detection via genetic diagnosis, and its ability to guide a patient’s treatment decisions, demonstrates the powerful impact of precision medicine in nephrology.

Reata and Invitae have collaborated to offer no-charge genetic testing for rare chronic kidney disease diagnosis and greater clinical insights. For more information regarding the KIDNEYCODE program or to order a test, please visit www.invitae.com/rare-chronic-kidney-disease or contact Invitae client services at clientservices@invitae.com or 800-436-3037.

Abnormal kidney function can have a strong family connection—Alport syndrome

Learn more about Alport syndrome at ReataPharma.com.

In Advanced CKD, Prehydration Before Contrast Doesn’t Reduce AKI

For patients with CKD stage 3, the standard practice of prehydration before contrast administration does not reduce the risk of AKI, reports a randomized trial in JAMA Internal Medicine.

The “Kompas” trial included 523 patients with stage 3 CKD undergoing nonemergency contrast-enhanced computed tomography (CECT) at six hospitals in the Netherlands. The patients were 336 men and 187 women, median age 74 years. They were assigned to undergo prehydration or no prehydration before contrast administration. Prehydration consisted of 1-hour infusion of 250 mL of 1.4% sodium bicarbonate.

The two groups were compared for their mean relative increase in serum creatinine 2 to 5 days after CECT, compared to baseline; the noninferiority margin was less than a 10% increase. Secondary outcomes included AKI developing 2 to 5 days after contrast administration, mean relative increase in creatinine at 7 to 14 days, incidence of acute heart failure or renal failure requiring dialysis, and healthcare costs.

Mean relative increase in serum creatinine at 2 to 5 days was 3.5% with prehydration and 3.0% with no prehydration: a nonsignificant difference. Postcontrast AKI developed in 1.5% of patients in the prehydration group (4 of 263 cases) and 0.7% in the no-prehydration group (3 cases): relative risk 1.7. No patient developed acute heart failure or kidney failure requiring dialysis.

There was no difference in the effects of prehydration versus no prehydration in specified patient subgroups. The cost of prehydration (mean €119) was avoided in the comparison group; other costs were not significantly different.

For more than a decade, prehydration protocols have been widely used with the goal of preventing postcontrast AKI in patients with CKD stage 3. This is despite the lack of evidence on the effectiveness of this intervention, as well as the potential for adverse effects such as volume overload.

The Kompas randomized trial finds no difference in the relative increase in serum creatinine for stage 3 CKD patients receiving prehydration versus no prehydration before CECT. Other outcomes are also similar between groups, including healthcare costs. “Our study provides sufficient evidence that preventive hydration can be withheld in this population,” the researchers conclude (Timal RZ, et al. Effect of no prehydration vs sodium bicarbonate prehydration prior to contrast-enhanced computed tomography in the prevention of postcontrast acute kidney injury in adults with chronic kidney disease: the Kompas randomized clinical trial. JAMA Intern Med 2020; DOI: 10.1001/jamainternmed.2019).

tions, IRR 1.80.

Maintenance dialysis was also associated with a lower rate of inpatient palliative care: 3.92 versus 8.00 per 1000 hospital days, IRR 0.45. Of 627 patients who died during follow-up, those treated with dialysis were more likely to die in the hospital: 66.0% versus 48.4%, relative risk 2.93.

For older adults with kidney failure, time spent in the hospital is an important patient-oriented outcome that may affect the decision to initiate dialysis. There are few data on comparative outcomes for patients choosing dialysis or nondialysis care in this situation.

The new study shows increased intensity of care, including a substantial increase in hospital days, for older adults with kidney failure who receive maintenance dialysis. Dialysis is also associated with a lower rate of inpatient palliative care and an increased likelihood of dying in the hospital. The authors note that the findings in their Canadian cohort—including the 40% rate of treatment without dialysis—may not be generalizable to the United States and elsewhere (Tam-Tham H, et al. Association of initiation of dialysis with hospital length of stay and intensity of care in older adults with kidney failure. JAMA Network Open 2020; 3:e2002223).