Nature Reviews Nephrology 8, 492 (2012); published online 24 July 2012;
doi:10.1038/nrneph.2012.147;
doi:10.1038/nrneph.2012.148;
doi:10.1038/nrneph.2012.149;
doi:10.1038/nrneph.2012.150

IN BRIEF

CHRONIC KIDNEY DISEASE

Combined equation provides better estimate of GFR

A combined creatinine–cystatin C equation for glomerular filtration rate (GFR) performs better than equations based on either marker alone, according to a recent study. Inker *et al.* formulated estimating equations based on cystatin C alone and cystatin C combined with creatinine in 5,352 individuals from 13 studies. They then validated the equations in more than 1,000 individuals from five different studies in which GFR had been measured, and found that the combined equation gave more precise estimates of renal function.

Original article Inker, L. A. *et al.* Estimating glomerular filtration rate from serum creatinine and cystatin C. *N. Engl. J. Med.* 367, 20–29 (2012)

RENAL BLOOD FLOW

0.9% saline associated with decreased renal blood flow

A new study reports that the intravenous infusion of 0.9% saline leads to reductions in renal blood flow velocity and renal cortical tissue perfusion in healthy individuals, a finding that has implications for intravenous fluid therapy in critically ill patients. Chowdhury *et al.* came to these conclusions following their crossover study where they randomly assigned 12 healthy male adults to a 2 l infusion of 0.9% saline or Plasma-Lyte® 148 (Baxter, Deerfield, IL, USA), with the other substance infused 7–10 days later.

Original article Chowdhury, A. H. *et al.* A randomized, controlled, double-blind crossover study on the effects of 2-l infusions of 0.9% saline and Plasma-Lyte® 148 on renal blood flow velocity and renal cortical tissue perfusion in healthy volunteers. *Ann. Surg.* 256, 18–24 (2012)

RENAL ARTERY STENOSIS

Mechanisms of kidney injury in renal artery stenosis

The mechanisms that lead to kidney injury in patients with atherosclerotic renal artery stenosis are unclear. In testing the hypothesis that inflammatory mediators are released from stenotic kidneys, Eirin *et al.* found that renal vein blood levels and renal net release of soluble E-selectin and VCAM-1 were higher in stenotic kidneys than in kidneys from patients with essential hypertension; levels of various inflammatory cytokines were also elevated in stenotic kidneys. The researchers also report that CD34⁺/KDR⁺ cells sequestered within stenotic kidneys might be involved in repair.

Original article Eirin, A. *et al.* Inflammatory and injury signals released from the post-stenotic human kidney. *Eur. Heart J.* doi:10.1093/eurheartj/ehs197

CHRONIC KIDNEY DISEASE

FGF23 neutralization associated with increased risk of death

Neutralization of the phosphaturic hormone FGF23 has been shown to be associated with reductions in secondary hyperparathyroidism—but also with increased mortality—in a rat model of chronic kidney disease—mineral and bone disorder (CKD–MBD). Shalhoub *et al.* treated CKD–MBD rats with a monoclonal FGF23 antibody or with an isotype control antibody. Although FGF23 neutralization resulted in increases in vitamin D levels and normalization of numerous bone parameters, it also led to increased serum phosphate levels, which probably contributed to the increased mortality.

Original article Shalhoub, V. *et al.* FGF23 neutralization improves chronic kidney disease-associated hyperparathyroidism yet increases mortality. *J. Clin. Invest.* 122, 2543–2553 (2012)