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IN BRIEF

SURGERY

Preoperative aspirin benefits patients with CKD

Preoperative aspirin therapy could improve outcomes in patients with chronic kidney disease (CKD) undergoing cardiac surgery. Among 3,585 consecutive patients in two tertiary hospitals, 31.5% had CKD before cardiac surgery and 27.6% developed postoperative acute kidney injury (AKI). Preoperative aspirin use was associated with significant decreases in postoperative AKI and 30-day mortality in patients with CKD. Moreover, the survival benefit of preoperative aspirin was significantly greater in patients with CKD than in those with normal renal function ($P < 0.001$).

Original article Yao, L. *et al.* Evidence for preoperative aspirin improving major outcomes in patients with chronic kidney disease undergoing cardiac surgery: a cohort study. *Ann. Surg.* doi:10.1097/SLA.0000000000000641

RENAL FIBROSIS

Protective effects of AT1 receptor activation

Activation of type 1 angiotensin (AT1) receptors on infiltrating macrophages might have antifibrotic effects. In mice subjected to unilateral ureteral obstruction, macrophage-specific AT1 receptor deficiency resulted in increases in kidney fibrosis and expression of proinflammatory M1 cytokines (including IL-1). Further experiments using a transplant model suggested that activation of macrophage AT1 receptors attenuates kidney fibrosis by suppressing IL-1 production and renal IL-1 receptor activation.

Original article Zhang, J.-D. *et al.* Type 1 angiotensin receptors on macrophages ameliorate IL-1 receptor-mediated kidney fibrosis. *J. Clin. Invest.* doi:10.1172/JCI61368

CHRONIC KIDNEY DISEASE

Age modifies risk of coronary events

A Canadian study has provided new data on the relationship between age, kidney function and risk of coronary events in patients with chronic kidney disease (CKD; $n = 1,268,538$). Regardless of CKD stage, the absolute rates of coronary death or nonfatal myocardial infarction during a median follow-up period of 4 years were >10 per 1,000 person-years among patients aged ≥ 50 years and <10 per 1,000 person-years among those aged <50 years.

Original article Tonelli, M. *et al.* Impact of age on the association between CKD and the risk of future coronary events. *Am. J. Kidney Dis.* doi:10.1053/j.ajkd.2014.03.013

RENAL FIBROSIS

Sonic hedgehog promotes fibroblast proliferation

Blockade of sonic hedgehog protein (SHH) signalling is a plausible therapeutic strategy for renal fibrosis, say researchers. Expression of SHH was induced after renal injury in rodent models of chronic kidney disease (CKD) and was increased in renal biopsy samples from patients with CKD compared with non-CKD controls. Moreover, SHH promoted the proliferation of normal rodent interstitial fibroblasts *in vitro* and *in vivo*, whereas blockade of SHH signalling inhibited fibroblast proliferation, reduced myofibroblast accumulation and attenuated renal fibrosis.

Original article Zhou, D. *et al.* Sonic hedgehog is a novel tubule-derived growth factor for interstitial fibroblasts after kidney injury. *J. Am. Soc. Nephrol.* doi:10.1681/ASN.2013080893