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IN BRIEF

CHRONIC KIDNEY DISEASE

Calcium and zoledronic acid increase bone volume in CKD

The risk of bone fracture is increased in patients with chronic kidney disease (CKD), but current treatments to reduce fractures might be associated with an increased risk of arterial calcification. Both calcium and zoledronic acid treatment, alone or in combination, improved bone volume and suppressed bone remodelling in a rat model of CKD. Improvements in the biomechanical properties of bone and a reduced parathyroid hormone level were seen with calcium treatment alone, but at increased risk of extra-skeletal calcification.

Original article Moe, S. M. *et al*. A comparison of calcium to zoledronic acid for improvement of cortical bone in an animal model of CKD. *J. Bone Miner. Res.* doi:10.1002/jbmr.2089

POLYCYSTIC KIDNEY DISEASE

Induced pluripotent stem cells derived from patients with autosomal dominant PKD show reduced levels of PC2

Heterozygous mutations in either *PKD1* or *PKD2*, which encode polycystin-1 (PC1) and polycystin-2 (PC2), respectively, cause autosomal dominant polycystic kidney disease (ADPKD). Induced pluripotent stem (iPS) cell lines established from three patients with ADPKD had underlying *PKD1* mutations, and decreased expression of PC2 at the cilium. These results highlight the use of iPS cells in PKD research and the potential interaction of PC1 and PC2 in disease pathogenesis.

Original article Freedman, B. S. *et al.* Reduced ciliary polycystin-2 in induced pluripotent stem cells from polycystic kidney disease patients with *PKD1* mutations. *J. Am. Soc. Nephrol.* doi:10.1681/ASN.2012111089

TRANSPLANTATION

Left atrial diameter predicts overall and cardiac mortality

Routine investigations, such as echocardiography prior to transplantation, could predict mortality in patients with end-stage renal disease. In a study of 553 renal transplant recipients, left-atrial diameter at transplantation was a predictor of patient survival. Significantly more patients with median left-atrial diameters <53 mm were alive 10 years after transplantation than those with a median of ≥53 mm. Left-atrial diameter predicted overall mortality and cause-specific cardiac death.

Original article Kainz, A. *et al.* Left atrial diameter and survival among renal allograft recipients. *Clin. J. Am. Soc. Nephrol*. doi:10.2215/CJN.04300413

RENAL FIBROSIS

Cysteamine treatment shows evidence of antifibrotic activity

Therapies that effectively target tissue injury are lacking in chronic kidney disease (CKD). Researchers show that in a mouse model of kidney injury, continuous cysteamine treatment after injury significantly reduced the severity and extent of fibrosis. Furthermore, treatment with cysteamine reduced myofibroblast proliferation and mRNA levels of extracellular matrix proteins. These results suggest cysteamine could have antifibrotic properties and has potential as a new therapy in CKD.

Original article Okamura, D. M. *et al.* Cysteamine modulates oxidative stress and blocks myofibroblast activity in CKD. *J. Am. Soc. Nephrol.* doi:10.1681/ASN.2012090962