Nature Reviews Nephrology **10**, 240 (2014); published online 11 March 2014;
doi:10.1038/nrneph.2014.40;
doi:10.1038/nrneph.2014.43;
doi:10.1038/nrneph.2014.41;
doi:10.1038/nrneph.2014.42

IN BRIEF

DIALYSIS

Risk of mortality increases with recovery time after dialysis

6,040 patients in the Dialysis Outcomes and Practice Patterns Study were questioned about their recovery time after haemodialysis, with 32% reporting times <2 h, 41% reporting 2–6 h and 10% reporting >12 h. Short recovery time was associated with male sex and high serum albumin levels, whereas long recovery time was associated with older age, BMI and diabetes. Importantly, recovery time positively correlated with kidney failure and mortality, suggesting that the metric might be useful in identifying high-risk patients.

Original article Rayner, H. C. *et al.* Recovery time, quality of life, and mortality in hemodialysis patients: the dialysis outcomes and practice patterns Study (DOPPS). *Am. J. Kidney Dis.* doi:10.1053/j.ajkd.2014.01.014

GLOMERULAR DISEASE

Talin1 loss in podocytes associated with nephrotic syndrome

New research in mice has revealed that the protein talin1, which is involved in anchoring the podocyte foot processes to the basement membrane, is required for glomerular filtration barrier maintenance. Specific deletion of talin1 in podocytes resulted in reduced β1 integrin activation and podocyte cell adhesion, proteinuria, foot process effacement and profound disruption to the actin cytoskeleton in podocytes. In patients with nephrotic syndrome, talin1 cleavage seems to be associated with activation of the protease calpain; inhibition of calpain in mice following glomerular injury resulted in reduced talin1 cleavage and albuminuria, suggesting that this protease might be a viable target for future therapies.

Original article Tian, X. *et al.* Podocyte-associated talin1 is critical for glomerular filtration barrier maintenance. *J. Clin. Invest.* doi:10.1172/JCI69778

CHRONIC KIDNEY DISEASE

Ethnicity associated with early chronic kidney disease

Among patients with diabetes, early chronic kidney disease (CKD) is more prevalent in African Americans and Hispanics than in white individuals, according to research using data from the National Health and Nutrition Examination Survey ($n = 2,310$). Additionally, urinary albumin excretion (UAE) was found to be significantly associated with C-reactive protein (CRP) levels in Hispanic patients with the highest CRP levels (≥0.57 mg/dl) and in African Americans with mid-range CRP levels (0.02–0.56 mg/dl), reinforcing the role of inflammation in diabetes-related CKD.

Original article Sinha, S. K. *et al.* Association of race/ethnicity, inflammation, and albuminuria in patients with diabetes and early chronic kidney disease. *Diabetes Care* doi:10.2337/dc13-0013

TUBULAR DISEASE

Lipotoxicity dysregulates NHE1 function, causes apoptosis

In the normal kidney, the Na^+/H^+ exchanger NHE1 interacts with phosphatidylinositol 4,5-bisphosphate—PI(4,5)P2—to maintain proximal tubule cell survival. However, research in mouse models has shown that glomerular injury leads to long-chain acetyl-CoA infiltration, which competes with PI(4,5)P2 for NHE1 binding and stimulates lipoapoptosis. Inhibition of long-chain acetyl-CoA synthesis in the proximal tubule protected these cells from apoptosis. Overall, the data suggest that the NHE1–PI(4,5)P2 interaction is disturbed in albuminuria and lipiduria via a reduced apoptotic threshold.

Original article Khan, S. *et al.* Lipotoxic disruption of NHE1 interaction with PI(4,5)P2 expedites proximal tubule apoptosis. *J. Clin. Invest.* doi:10.1172/JCI71863