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IN BRIEF

EPIDEMIOLOGY

Surveying kidney care worldwide

The International Society of Nephrology (ISN) surveyed 130 ISN-affiliated countries on their ability to deliver kidney care. 125 countries completed the survey, representing ~93% of the world's population. Most countries had facilities for haemodialysis (95%), peritoneal dialysis (76%) and kidney transplantation (75%); these services were publicly funded and free at the point of care delivery in 42–51% of countries. However, although 94% of countries in Africa had facilities for haemodialysis, only 45% and 34% of African countries had facilities for peritoneal dialysis and kidney transplantation, respectively.

ORIGINAL ARTICLE Bello, K. A., *et al.* Assessment of global kidney health care status. *JAMA*, **317**, 1864–1881 (2017)

BASIC RESEARCH

PHD inhibitors miss their mark

Kiriakidis *et al.* show that small molecule inhibitors of prolyl hydroxylase domain (PHD) enzymes, which were developed as treatment for renal anaemia through activation of hypoxia inducible factor, suppress the secretion of complement C1q *in vitro* and in mice. C1q requires prolyl 4 hydroxylation for activation and the researchers found that C1q is hydroxylated by collagen prolyl 4 hydroxylase (CP4H) and not by PHD enzymes. They posit that C1q levels are reduced by PHD inhibitors through an off-target effect, which is likely mediated by the inhibition of CP4H.

ORIGINAL ARTICLE Kiriakidis, S. *et al.* Complement C1q is hydroxylated by collagen prolyl 4 hydroxylase and is sensitive to off-target inhibition by prolyl hydroxylase domain inhibitors that stabilize hypoxia-inducible factor. *Kidney Int.* http://dx.doi.org/10.1016/j.kint.2017.03.008 (2017)

VASCULAR DISEASE

Trialling stem cell treatment for vascular disease

In a study of mesenchymal stem cells (MSCs) to treat atherosclerotic renovascular disease, 28 patients received standard medical treatment, 14 of whom also received a single infusion of MSCs. Patients who received MSCs showed no adverse clinical effects. 3 months after treatment, cortical perfusion and renal blood flow were increased, and tissue fractional hypoxia was decreased, in kidneys from patients treated with MSCs but not in those who received standard therapy. These data indicate that the infusion of MSCs is safe and might be suitable for the treatment of atherosclerotic renovascular disease.

ORIGINAL ARTICLE Saad, A. *et al.* Autologous mesenchymal stem cells increase cortical perfusion in renovascular disease. *J. Am. Soc. Nephrol.* http://dx.doi.org/10.1681/ASN.2017020151 (2017)

DEVELOPMENT

Non-muscle myosin II in kidney morphogenesis

Hague *et al.* deleted *Myh9* and *Myh10*, which encode heavy chains of the motor protein non-muscle myosin II, from the nephric duct and ureteric bud in mice. They observed that mid-gestation epithelia from these structures showed features of aberrant apicobasal integrity and that the ureteric bud had formed ectopically. These events were independent of RET signalling but dependent on ERK activity. As these mice displayed hydroureter and hydronephrosis at birth, the authors propose that their ureter and bladder are incorrectly connected.

ORIGINAL ARTICLE Haque, F. *et al.* Non-muscle myosin II deletion in the developing kidney causes ureter-bladder misconnection and apical extrusion of the nephric duct lineage epithelia. *Dev. Biol.* http://dx.doi.org/10.1016/j.ydbio.2017.04.020 (2017)