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IN BRIEF

POLYCYSTIC KIDNEY DISEASE

VEGFC and microvascular changes in PKD

New research shows that a disorganized pericystic network of vessels expressing vascular endothelial growth factor receptor 3 (VEGFR3) is present from the early stages of polycystic kidney disease (PKD). Huang and colleagues also found that the major VEGFR3 ligand, VEGFC, was downregulated during the early stages of cystogenesis in mice with autosomal dominant PKD. Administration of VEGFC enhanced VEGFR3 phosphorylation, normalized the pericystic network of vessels and ameliorated cystic disease in mice.

Original article Huang, J. L. *et al*. Vascular endothelial growth factor C for polycystic kidney disease. *J. Am. Soc. Nephrol.* doi:10.1681/ASN.2014090856

HYPERTENSION

RGS5 as a mediator of gestational hypertension

RGS5 has a key role in regulating blood pressure during pregnancy through interactions with Ang II and PPAR signalling, according to new research. Holobotovskyy *et al*. found that expression of *RGS5* was reduced in the myometrial vessels of women with gestational hypertension or pre-eclampsia. Pregnant *Rgs5*-deficient mice had enhanced vascular sensitivity to Ang II, resulting in gestational hypertension, whereas administration of PPAR agonists to pregnant heterozygous mice normalized vascular function and blood pressure through effects on Rgs5.

Original article Holobotovskyy, V. *et al*. Regulator of G protein signaling 5 is a determinant of gestational hypertension and preeclampsia. *Sci. Transl. Med*. doi:10.1126/scitranslmed.aaa5038

GENETICS

Age-related changes associated with *APOL1* variants

APOL1 variants contribute to kidney disease in African Americans but the mechanism for this effect is unknown. New research indicates that *APOL1* risk alleles are associated with an exaggerated age-related loss of nephrons together with enlargement of the remaining glomeruli. In an assessment of renal histological features of patients without kidney disease, Hoy *et al*. identified a reduction in glomerular number and an increase in glomerular volume with increasing age only in African Americans carrying *APOL1* risk alleles, with a predicted annual loss of 8,834 glomeruli per single kidney over the first 38 years of adult life in African Americans with two risk alleles.

Original article Hoy, W. E. *et al*. APOL1 risk alleles are associated with exaggerated age-related changes in glomerular number and volume in African-American adults: an autopsy study. *Am. Soc. Nephrol.* doi:10.1681/ASN.2014080768

GLOMERULAR DISEASE

INF2 mutations and FSGS in Chinese families

A study of an extended family of Chinese ancestry with focal segmental glomerulosclerosis (FSGS) has resulted in the identification of a novel Ser85Trp mutation in *INF2* that leads to podocyte skeletal abnormalities. Sequencing of all *INF2* exons in an additional 55 families with FSGS and 200 ethnicity-matched healthy controls revealed the overall frequency of *INF2* mutations to be 3.6% among Chinese patients with familial FSGS.

Original article Xie, J. *et al*. Novel mutations in the inverted formin 2 gene of Chinese families contribute to focal segmental glomerulosclerosis. *Kidney Int.* doi:10.1038/ki.2015.106