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IN BRIEF

PRE-ECLAMPSIA

Altered placental macrophages in pre-eclampsia

A new study shows alterations in placental macrophage activation and in their interactions with trophoblasts in women with pre-eclampsia. Przybyl *et al.* report a significant reduction in CD74+ placental macrophages in pre-eclamptic women compared with healthy controls. Macrophages that lacked CD74 showed reductions in adhesion molecule expression and trophoblast adherence as well as a shift towards a pro-inflammatory signature when co-cultured with trophoblasts. In mice, CD74 knockout resulted in placental abnormalities and fetal growth restriction.

ORIGINAL ARTICLE Przybyl, L. *et al.* CD74-downregulation of placental macrophage-trophoblastic interactions in preeclampsia. *Circ. Res.* http://dx.doi.org/10.1161/CIRCRESAHA.116.308304 (2016)

HYPERTENSION

Hypertension not associated with GFR decline

Researchers report that non-malignant hypertension is not associated with accelerated decline in glomerular filtration rate (GFR) in the general middle-aged population. Eriksen *et al.* identified a mean decline in measured GFR of 0.95 ml/min per year in 1,595 individuals aged 50–62 years who did not have diabetes, kidney or cardiovascular disease at baseline. They found no significant associations between systolic or diastolic blood pressure at baseline and GFR decline, suggesting a role of genetic and environmental factors in the development of chronic kidney disease in patients with hypertension.

ORIGINAL ARTICLE Eriksen, B. O. *et al.* Elevated blood pressure is not associated with accelerated glomerular filtration rate decline in the general non-diabetic middle-aged population. *Kidney Int.* http://dx.doi.org/10.1016/j.kint.2016.03.021 (2016)

BASIC RESEARCH

Role of the β_3 adrenergic receptor in renal function

The β_1 and β_2 adrenergic receptors (ARs) are known to contribute to the sympathetic regulation of renal function. Now, researchers report an antidiuretic effect of β_3-AR stimulation. In murine kidney tubules, stimulation of β_3-AR promoted accumulation of aquaporin 2 at the apical plasma membrane of the collecting duct and activation of the Na-K-2Cl symporter in the thick ascending limb. Moreover, genetic inactivation of β_3-AR in mice was associated with significantly increased urine excretion of water, sodium, potassium and chloride, whereas stimulation of β_3-AR had the opposite effect.

ORIGINAL ARTICLE Procino, G. *et al.* β_3 adrenergic receptor in the kidney may be a new player in sympathetic regulation of renal function. *Kidney Int.* http://dx.doi.org/10.1016/j.kint.2016.03.020 (2016)

HYPERTENSION

Accessory arteries in incomplete renal denervation

Incomplete ablation of renal nerves owing to the presence of accessory renal arteries that are too small for denervation might partly account for persistent hypertension after renal denervation say researchers. Before denervation, stimulation of renal nerves in the main and accessory renal arteries of 21 patients with resistant hypertension induced substantial increases in systolic blood pressure. After denervation, the blood pressure response to renal nerve stimulation was reduced in the main renal arteries but not in non-denervated accessory arteries, indicating a residual source of renal sympathetic tone.

ORIGINAL ARTICLE de Jong, M. R. *et al.* Persistent increase in blood pressure after renal nerve stimulation in accessory renal arteries after sympathetic renal denervation. *Hypertension* http://dx.doi.org/10.1161/HYPERTENSIONAHA.115.06604 (2016)