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Using genome-wide complex trait analysis to quantify ‘missing heritability’ in Parkinson’s disease

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Pancreatic beta-cell function and type 2 diabetes risk: quantify the causal effect using a Mendelian randomization approach based on meta-analyses

Y. Song, E. Yeung, A. Liu, T.J. VanderWeele, L. Chen, C. Lu, C. Liu, E.F. Schisterman, Y. Ning, and C. Zhang

Cover: Primary aldosteronism causes the most common form of secondary arterial hypertension. Recent studies have discovered an important role of mutations in genes encoding potassium channels in the pathogenesis of primary aldosteronism, both in human disease and in animal models. In the adrenal cortex of Kcnk3 mice membrane depolarization (ΔEm) consequent to inactivation of TASK1 potassium channels increases intracellular calcium concentration by opening T-type voltage-dependent calcium channels. Increased intracellular calcium stimulates DKK3 expression, which represses CYP11B2, the rate-limiting enzyme in aldosterone biosynthesis. In the absence of DKK3, CYP11B2 is constitutively increased and insensitive to a potassium-rich diet. For further detail, see the article by El Wakil et al., pp. 4922–4929.