Albuminuria in Type 2 Diabetes: from Screening to Treatment

Biography

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Dr Correa-Rotter is past Secretary General of the International Society of Nephrology (ISN), and past-President of the Latin American Society of Nephrology and Hypertension. Previous international positions: Chair of the Nominating Committee ISN, Chair of ISN Global Outreach for Latin America, councillor for ISN, member of the board of KDIGO, Chair of the Organizing Committee WCN2017 and member of the Postgraduate Education Committee of ASN.

Awards: Medal as Distinguished International Nephrologist of the National Kidney Foundation, Miatello prize of SLANH, Distinguished member ERA. Over 290 peer reviewed publications and 65 book chapters. Interests: diabetic nephropathy, renal replacement treatment, Mesoamerican nephropathy, peritoneal dialysis, mineral metabolism, lupus nephritis.

Abstract

Type 2 Diabetes Mellitus (T2DM) is nowadays a large and increasing global disease burden, conditioning increased morbidity and mortality, being particularly significant the increase in cardiovascular (CV) risk and microvascular complications, being particularly relevant chronic kidney disease (CKD), which additionally constitutes a massive social and economic burden for communities. Albuminuria is a simple yet strong predictor of heart and kidney disease outcomes. For an early diagnosis of CKD, urine albumin-to-creatinine ratio (UACR) testing is critical as increased albuminuria often precedes estimated glomerular filtration rate (eGFR) decline. In addition to its importance for CKD diagnosis, UACR is now recognised by major guidelines as a treatment target to reduce the risk of CKD progression as well as to reduce the risk of adverse cardiovascular outcomes. However, the awareness and understanding remains low. UACR and eGFR should be assessed at least once annually to monitor the disease progression and treatment response.

Pathogenic mechanisms that lead to CKD development and progression in T2DM include metabolic, haemodynamic, and inflammatory/fibrotic factors. Current therapies focus predominantly on metabolic and haemodynamic factors. Given the high residual risk, alternative modes of treatment beyond current therapies are required. Targeting inflammation and fibrosis, mediated by mineralocorticoid receptor (MR) overactivation, offers a new and complementary treatment strategy to improve cardiorenal outcomes in diabetic kidney disease (DKD).

Non-steroidal mineralocorticoid receptor antagonist (MRA) selectively and potently blocks the MR overactivation. Unlike steroidal MRAs, it is associated with markedly lower levels of the hyperkalaemia and minimal or absent sexual side effects. Recent trials have demonstrated that non-steroidal MRA reduced the risks of CV events and CKD progression in subjects with DKD. Non-steroidal MRA reduced UACR by 32% between baseline and month 4 vs placebo in patients with DKD. Furthermore, achieving early UACR reduction with non-steroidal MRA

can lead to tangible benefits for both kidney and CV health. Patients with DKD receiving non-steroidal MRA experienced greater likelihood of improvement in KDIGO risk category than those receiving placebo. Therefore, non-steroidal MRA has been endorsed by multiple international guidelines with level A evidence for cardiovascular and also for kidney disease: Improving Global Outcomes (KDIGO), American Diabetes Association (ADA), American Association of Clinical Endocrinology (AACE), European Society of Hypertension (ESH) and European Society of Cardiology (ESC).