Diabetic Kidney Disease: It Don't Get No Respect

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To paraphrase the comedian Rodney Dangerfield, the kidney "don't get no respect." Type 2 diabetes is the most frequent cause of chronic kidney disease (CKD) and end-stage renal disease (ESRD) (1–3), and 40–50% of patients with CKD and type 2 diabetes will develop ESRD (4,5). Yet, although rates of most major diabetes-related complications have declined, there has been no substantial improvement in ESRD (6).

Low awareness of the presence of CKD compounds this problem. A study of CKD and cardiovascular risk in six regions of the world found that, in the general global population, only 6% of people with CKD knew they had the disease, and only 10% were aware of their disease in high-risk populations (10%) (7). Overall, no more than 10% of patients report awareness of having CKD until it reaches stage 4, and there was no systematic improvement in the level of awareness from 1999 to 2014 (8). What makes this situation even more dire is that the presence of CKD increases the risk of cardiovascular mortality by nearly threefold in people with diabetes (9).

The natural history of CKD in type 2 diabetes can include glomerular hyperfiltration, increasing albuminuria, declining estimated glomerular filtration rate (eGFR), and ESRD (10–12). Yet, patients with diabetes and CKD are at increased risk for cardiovascular disease (CVD) even before their eGFR declines to low levels (10).

The American Diabetes Association's (ADA's) *Standards of Medical Care in Diabetes* recommend screening for kidney disease at least annually, including assessment of urinary albumin (i.e., spot urine albumin-to-creatinine ratio [UACR]) and eGFR in patients who have had type 1 diabetes for >5 years and in all patients with type 2 diabetes regardless of treatment. Patients with urinary albumin >30 mg/g creatinine (Cr) or an eGFR <60 mL/min/1.73 m^2 should be monitored twice annually to guide therapy (13).

When I was much younger, we were excited about the potential role of ACE inhibitors in the prevention of diabetic kidney disease. The pathophysiologic basis for their benefit seemed somewhat difficult to comprehend; however, the data were unequivocal. As a result, renin-angiotensin inhibition became the standard for patients at risk for kidney disease. Despite this guidance, to this day, only about 20% of patients are on this type of therapy (14).

With regard to therapy, the ADA's Standards of Care recommend that, in nonpregnant patients with diabetes and hypertension, either an ACE inhibitor or an angiotensin receptor blocker be used for those with modestly elevated UACR (30–299 mg/g Cr) and is strongly recommended for those with a UACR >300 mg/g Cr or an eGFR <60 mL/min/1.73 m^2 (13).

Additionally, sodium–glucose cotransporter 2 inhibitors and glucagon-like peptide 1 receptor agonists should be considered for patients with type 2 diabetes and CKD who require another drug added to metformin to attain their target A1C or who cannot use or tolerate metformin. Agents from these drug classes are suggested because they appear to reduce risks of CKD progression, CVD events, and hypoglycemia (13).

We are still faced with the reality of an inexorable decline in renal function in many of our patients with diabetes and with the frustration of trying to optimize their care with limited effective interventions. But this stark reality is changing. We now have therapies that have demonstrated a positive impact on CKD and CVD, and new agents are on the horizon. Perhaps it is now time for a new sense of hope and optimism that we can and will give kidney disease the respect it deserves.

DUALITY OF INTEREST

S.A.B. is on advisory boards and/or speakers bureaus for AstraZeneca, Bayer, Lilly, and Novo Nordisk. No other potential conflicts of interest relevant to this article were reported.

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