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Effect of Empagliflozin in Preventing Progression of Renal Dysfunction in Diabetic Patients With Compensated Heart Failure

To the Editor:

The effect of sodium-glucose cotransporter 2 (SGLT2) inhibitors in protecting renal function in heart failure patients with or without diabetes is receiving considerable attention. Shirakabe et al demonstrated that the dose of loop diuretics was decreased following the initiation of SGLT2 inhibitor therapy in diabetic patients with compensated heart failure.[1] During the 6-month follow-up, urinary *N*-acetyl-*β*-glucosaminidase (NAG) excretion was decreased in the empagliflozin compared with control group.[1] The authors concluded that renal tubular injury may be alleviated by the SGLT2 inhibitors through a reduction in the dose of loop diuretics.

In their study, Shirakabe et al reported that urinary NAG excretion was decreased in the empagliflozin group, particularly when a reduction in the dose of loop diuretics was achieved.[1] However, plasma B-type natriuretic peptide concentrations and the estimated glomerular filtration rate remained unchanged during the 6-month period of empagliflozin therapy.[1] The study cohort was relatively less sick, and an observation period longer than 6 months may be required to demonstrate statistically significant effects of empagliflozin on these parameters, as in other trials.[2] In addition, a comparison of changes in these parameters between the empagliflozin and control groups may provide greater clarity of the effect of empagliflozin in addition to the inter-group trend analyses.

In clinical trials focusing on the effect of SGLT2 inhibitors on chronic kidney disease, including A Study to Evaluate the Effect of Dapagliflozin on Renal Outcomes and Cardiovascular Mortality in Patients With Chronic Kidney Disease (Dapa-CKD),[3] all participants had received renin-angiotensin-aldosterone system (RAAS) inhibitors. The efficacy of empagliflozin may be emphasized in the subgroup receiving RAAS inhibitors. The magnitude of the decrease in the dose of loop diuretics may be increased by concomitant administration of tolvaptan and/or sacubitril/valsartan.[4,5] Further analysis is warranted to investigate the effects of such combination therapy in preventing declines in renal function and improving clinical outcomes.

Disclosures

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