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Sodium/glucose cotransporter 2 inhibitors reduce microalbuminuria in diabetic renal transplant patients.

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Objectives:

Recent clinical trials evidenced that sodium/glucose cotransporter 2 inhibitors (SGLT2i) delay the progression of diabetic kidney disease, mainly by the reduction of intraglomerular pressure. These renoprotective effects have not been investigated in diabetic kidney transplant(KT) patients.

Methods: We prospectively have followed diabetic KT patients treated with dapagliflozin(n=67), which was started at 42(median; 1-407) posttransplant months. Twenty-two patients had posttransplant DM and 4 had type 1 DM. Baseline serum creatinine was 1.2±0.4(0.6~2.5)mg/dl.

Results:

Urinary albumin-creatinine ratio at baseline was 118.9±231.0 mcg/mg, which significantly decreased to 82.7±152.1 at 6 months(p=0.003, paired t test) and to 36.1±137.3 at 12 months(p=0.109). Baseline HbA1c was 7.3±1.0%, which showed a decrease at 6(7.1±0.9%, p=0.004) and 12(7.1±1.0%, p=0.035) months. Body weight decreased significantly from 69.7±16.0 to 68.1±16.1 kg(p=0.000) at 6 months. Serum creatinine did not change significantly between baseline and 1 month, and also between baseline and 12 months. No patients developed acute graft dysfunction. Among the 24 patients on insulin, 9 patients could stop insulin. Office blood pressure also was not changed significantly but 19 of 49 patients on antihypertensive medication had a decrease in the number and/or dose of anti-hypertensive drugs. Eight patients stopped dapagliflozin, due to acute cystitis in 3, weight loss in 2, and patient's preference in 3.

Conclusions: SGLT2i reduces microalbuminuria in diabetic KT patients. Whether SGLT2i elicits a long-term favorable graft outcome remains to be determined by further studies.