

Abstract Type : Poster

Abstract Submission No. : PO-1587

Safety and efficacy of Sodium/Glucose Cotransporter 2 (SGLT2) Inhibitor in kidney transplant recipients

Hyukyong Kwon¹, Sung Hyun Son¹, Ki Tae Kim¹, Joon Heun Jeong², Chul Soo Yoon³, Eun Joo Hwang⁴, Jin Min Kong¹

¹Department of Internal Medicine-Nephrology, Hanseo Hospital, Korea, Republic of

²Department of Surgery-Transplantation, Hanseo Hospital, Korea, Republic of

³Department of Urology, Hanseo Hospital, Korea, Republic of

⁴Department of Laboratory Medicine, Hanseo Hospital, Korea, Republic of

Objectives: Several recent randomized controlled studies consistently showed that SGLT2 inhibitors have renoprotective effect that delays the progression of diabetic nephropathy mainly by the reduction of intraglomerular pressure. This renoprotective effect may also favor diabetic renal transplant (KT) recipients in improving long-term graft outcome. But there are concerns for the use of this drug in KT patients because SGLT2 inhibitors may induce acute graft dysfunction by volume depletion secondary to osmotic diuresis and acute reduction of intraglomerular pressure, and lower and upper urinary tract infection. The safety and glucose-lowering efficacy of SGLT2 inhibitors in KT patients has not been reported.

Methods:

We prospectively have followed 51 diabetic renal recipients treated with dapagliflozin. Of these, the data of 43 patients followed more than 1 year was analyzed. Three patients had type 1 DM, 26 had type 2 DM and 14 had NODAT. Eighteen patients were on insulin. Baseline serum creatinine was 1.3 ± 0.4 (0.6~2.4) mg/dl. Diuretics were stopped before the initiation of dapagliflozin.

Results:

Baseline HbA1c was $7.5 \pm 1.1\%$, which decreased significantly at 6 ($7.1 \pm 1.0\%$, $p=0.011$) and 12 ($6.9 \pm 0.8\%$) months. Body weight decreased significantly from 69.6 ± 12.5 to 68.0 ± 14.0 ($p=0.000$). Six patients could stop insulin and another 8 patients could reduce $\geq 20\%$ dose of insulin. eGFR did not change significantly (60.3 ± 17.0 ml/min at baseline and 59.3 ± 14.5 at 12 months). Office blood pressure also was not changed significantly but 14 of 39 patients on antihypertensive medication had a decrease in number and/or dose of anti-hypertensive drugs. No significant change in urine albumin-creatinine ratio was observed at 12 months. Only one patient developed an episode of upper urinary tract infection. Eight patients stopped dapagliflozin due to acute cystitis in 3, weight loss in 2 and patient's preference in 3.

Conclusions:

SGLT2 inhibitor is effective in reducing hyperglycemia in KT patients, and adverse reactions were manageable. Long-term renoprotective benefit in these patients is remains to be determined.