P-175

The Renal Effects of DPP-4 Inhibitors (Vildagliptin, Sitagliptin) in Patients with Type 2 Diabetes

Joon-Yeop Lee, Jeong-Ho Lee

Department of Internal Medicine, Donnguk University Gyeongju Hospital

Background & Purpose: Dipeptidyl peptidase 4 (DPP-4) inhibitors enhance the body's own ability to control blood glucose by increasing the active levels of incretin hormones such as type 1 glucagon like peptide (GLP-1), gastric inhibitory peptide (GIP). In addition, GLP-1 has direct effects on the heart, vessels and kidney mainly via the type 1 glucagon like peptide receptor. Therefore, we investigated the renal effects of DPP-4 inhibitor such as vildagliptin, and sitagliptin.

Methods: We performed a retrospective cohort study of 104 patients with type 2 diabetes receiving medical treatments include DPP-4 inhibitor (vildagliptin, sitagliptin) at Dongguk University Gyeongju Hospital, from January 2009 to January 2013. The patients were included in the primary analysis population if they had diabetic nephropathy at baseline, as defined by a documented urinary albumin-to-creatinine ratio (UACR) of >30 to ≤3000 mg/g creatinine and an estimated glomerular filtration rate (eGFR) of ≥30 mL/min/1.73m^2. The patients were successfully followed over 12 months of DPP-4 inhibitors.

Results: UACR at 12 months was reduced by 90.93±63.19 mg/g creatinine ($p<0.026$), eGFR at 12 months decreased 0.66±14.88 mL/min/1.73m^2 ($p=0.238$). There was no difference between group of vildagliptin and sitagliptin, and with/without rennin-angiotensin-aldosterone system (RAAS) blockades. The albuminuria-lowering effect of DPP-4 inhibitors was not influenced by systolic blood pressure values at baseline or after treatment ($p=0.105$).

Conclusions: DDP-4 inhibitors such as vildagliptin, and sitagliptin, beyond glucose-lowering effects, reduced albuminuria without lowering the estimated glomerular filtration rate, and regardless of RAAS blockades.

Key Words: DPP-4, 알부민뇨, 당뇨병
DPP-4, Albuminuria, Diabetes