SP470 DPP-4 INHIBITOR, VILDAGLIPTIN IS EFFECTIVE IN REDUCING ALBUMINURIA IN EARLY STAGES OF DIABETIC NEPHROPATHY

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Introduction and Aims: One of the basic and central tools in the treatment of diabetic patients available to the clinician today is DPP-4 inhibitors. Vildagliptin is a novel oral anti-diabetic drug for the treatment of type 2 diabetes mellitus (T2DM) that provide important reduction in glycated hemoglobin and its safety in patients with impaired kidney function is proven. The aim of our study was to investigate the nephroprotective effects of DPP-4 inhibitors and its possible role in the prevention/attenuation of diabetic kidney disease beyond its glucose lowering properties.

Methods: We included in our study 147 (81F, 66M - age 58±10.6 years) consecutive T2DM patients with diabetic nephropathy (DN) and no renal insufficiency. Patients were assigned into three groups according albuminuria: Group DN 1 (normoalbuminuria), ACR <30 mg/g creatinine; Group DN 2 (microalbuminuria), ACR 30-300 mg/g creatinine; and Group DN 3 (macroalbuminuria), ACR more than 300 mg/g creatinine. Renal function was evaluated based on the estimated glomerular filtration rate (eGFR) calculated by CKD-EPI formula. Body weight, urine albumin excretion, eGFR and metabolic parameters, including the levels of fasting plasma glucose, HbA1c, total cholesterol, high density lipoprotein cholesterol low density lipoprotein cholesterol, triglyceride were measured at baseline and every 3 months during the 12 month study. All patients were treated with vildagliptine for 12 months.

Results: Treatment with vildagliptine had no significant influence on the eGFR or on the body weight but hemoglobin A1c (HbA1c) levels were significantly reduced (7.8 ±1.1% vs 6.8 ±0.9%, p<0.05). There was a significant reduction of 46.4 % in ACR but only in the DN2 patients (microalbuminuria). Albuminuria in DN3 patients was also reduced but did not reach statistical significance over the period of 12 months. No severe side-effects of vildagliptin were reported in these patients.

Conclusions: According to our preliminary data, vildagliptin therapy is effective in reducing microalbuminuria in patients with early diabetic nephropathy but not in patients with macroalbuminuria. Our results suggest additional benefits beyond improvement of glycemic control if used in an early stage of DN. It is clear that long-term renal benefit of vildagliptin needs to be further investigated.