

Effect of Fluvastatin Treatment on Proteinuria in Diabetic Patients with Chronic Kidney Disease

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Cardiovascular complications are the most concerning issues in patients with chronic kidney disease (CKD). Correction of dyslipidemia with statin has shown to be protective and therapeutic in the progression of cardiovascular events; however its association with progression of kidney disease has not been clearly established. In this study, we investigated the efficacy of fluvastatin (Lescol XL) on the progression of diabetic nephropathy in patients with renal insufficiency.

A total of 75 diabetic patients with CKD (stage 2 to 4) completed this multicenter, open-label, 12 month randomized controlled trial. All patients were treated with 20 mg fluvastatin for 6 months. At month 6, patients were randomized to either continue or to discontinue fluvastatin for additional 6 months. Primary endpoint was the difference in urinary protein to creatinine ratio between the groups at 12 months.

Baseline characteristics showed no differences between the groups in HbA1c, HOMA-IR, diabetes duration and estimated glomerular filtration rate (GFR). Majority of patients (81%) were using RAS blockers. After 6 months of fluvastatin treatment, there was no significant decrease in urinary protein excretion ($p=0.861$) and in microalbumin excretion ($p=0.070$) in both groups. Also, there were no significant change in urinary nephrin excretion in both group compared to baseline. Estimated GFR significantly declined at 6months in both groups ($p<0.01$, continuation group vs discontinuation group, $\Delta 6$ months eGFR= -2.4 ± 5.55 vs -2.1 ± 0.84) and continued to decline after discontinuation of fluvastatin ($\Delta 6$ months eGFR= -2.7 ± 9.13 , $p=0.08$), whereas the change was not significant with fluvastatin treatment ($\Delta 6$ months eGFR= -0.5 ± 5.11 , $p=0.549$). HOMA-IR significantly improved in continuation group. Significant decrease in total and low density cholesterol was observed after 6, 12months in patients treated with fluvastatin. In conclusion, there was no significant reduction in proteinuria with fluvastatin treatment in diabetic patients with chronic kidney disease. However, our study suggests that there might be a role in statin to slow the progression of kidney disease.

Key Words: Fluvastatin, CKD progression, Proteinuria