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Effect of intravitreal vascular endothelial growth factor inhibitors on kidney function

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Objectives: To evaluate the change in renal function after administration of intravitreal anti-vascular endothelial growth factor inhibitor in patient with diabetes and diabetic retinopathy

Methods: In this prospective observational study, 60 diabetic patients with diabetic retinopathy and proteinuria who received intravitreal anti-VEGF agent (Ranibizumab) at Indira Gandhi Institute of Medical Sciences, Bihar, India were included. All patients were followed up for one month and serum creatinine and urine albumin to creatinine ratio (UACR) were measured at baseline and at 1 month and both were compared to see for any significant changes.

Results: The mean age of the participants were 55.56 ± 10.45 years and 63.3% were male. There was increase in serum creatinine from baseline to 1 month follow-up (1.95 ± 0.43 vs 1.96 ± 0.42), however it was statistically insignificant. There was increase in UACR at 1 month follow-up (2506.12 ± 1153.37 vs 2539.61 ± 1132.24), but without any statistically significant difference. There was decline in mean eGFR from baseline to follow-up (37.61 ± 10.23 vs 37.47 ± 9.85) but was statistically insignificant. There was statistically significant increase in diastolic blood pressure (88.55 ± 11.96 vs 90.62 ± 9.62 , $p = 0.03$), however there was no significant change in systolic blood pressure.

Conclusions: Our study indicated that intravitreal Anti-VEGF agents were not associated with renal function decline and proteinuria in patients with diabetic kidney disease.