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Control of D-glucose preserves renal function in patients with diabetes

We previously reported that D-glucose is a strong predictor of renal function change in diabetes. This study is an expansion of a previous study but with longer duration. Data was compared between first and last visits. 85 diabetic patients were treated with a combination of glargine or detemir with regular or fast acting insulin for 26.3±24.6 (SD) months. Blood pressure was controlled by beta blockers, calcium channel blockers, sympathetic inhibitors or a combination, and chlorthalidone in resistant cases. Angiotensin Converting Enzyme Inhibitors and Receptors Blockers (ACEI/ARB) were excluded in order to reduce the risk of acute and chronic renal failure. Objectives were to determine if this paradigm of treatment prevents progression of diabetic nephropathy. Fasting (F) and 2 hour Post-Prandial (2hPP), glucose, Serum Creatinine (Scr) and estimated Glomerular Filtration Rate (eGFR); hemoglobin A1c (HbA1c); and Sitting Systolic and Diastolic Blood Pressure (SBP) were recorded for the first and last visits. Mean Blood Pressure (MBP) and differences (d, 2hPP-F) were calculated for glucose, Scr, and eGFR. Parameters between first and last visits were compared using a paired t-test adjusted for age, gender and duration of treatment with $p<0.05$ considered significant. No significant differences were found between first and last visits for F and 2hPP glucose, F and 2hPP Scr, and F and 2hPP eGFR, and HbA1c. D-glucose, sitting SBP and MBP were significantly lower at last when compared to first visit. Combining of visits, D-glucose and HbA1c showed a direct and positive correlation with dScr. Changes in post minus pre-treatment values were significantly correlated positively between HbA1c and FBG, 2hPPG or D-glucose. In conclusion, the current study emphasizes the importance of control of D-glucose (2hPP-F) with insulin in preserving renal function in diabetes when ACEI/ARB are not used.

Biography

Anil K Mandal has completed his graduation from Calcutta National Medical College and is a Diplomat of the American Board of Internal Medicine. He is the author of many books and articles on research in Diabetes and Kidney Disease. He is a two time Fulbright Scholar to India and Visiting Professor to 24 countries where he has lectured on diabetes, high blood pressure and kidney disease. He began the Mandal Diabetes Research Foundation for the prevention and treatment of diabetes based on his knowledge that diabetes is the most common cause of kidney failure worldwide. He is dedicated in helping diabetic patients live a good life and not to enter dialysis.

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