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Independent determinants of urinary albumin excretion and confounding variables in type 2 diabetic patient

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Microalbuminuria is a known risk factor for the development of clinical nephropathy in diabetes and also an independent risk factor for cardiovascular disease. Microalbuminuria is a marker of a pathophysiological process that causes both increased renal albumin loss and atherothrombosis. Microalbuminuria is hallmark for early detection of diabetic nephropathy. The aim of this study was to evaluate the independent determinants of urinary albumin excretion, and association between biochemical parameters and socio-demographic factors in Diabetic patients. This is a hospital based cross sectional study included diagnosed case of Diabetic patients. Serum uric acid concentrations were measured by enzymatic method (uricase-peroxidase), HbA1c was measured using the principle of dry chemistry, blood sugar measured by GOD/POD method and urinary albumin excretion was measured with an immunoturbidometric assay. Based on categorization of urinary albumin excretion, 65% normoalbuminuric, 27% microalbuminuric and 8% macroalbuminuric are found in my study population. The frequency of hyperuricemia was found to be 43%. The prevalence of albuminuria increased significantly with increasing glycaemia. UAE is significantly correlated with onset of DM ($r=0.203$, $P=0.013$), Systolic Blood Pressure ($r=0.355$, $P=0.001$), Diastolic Blood Pressure ($r=0.405$, $P=0.001$), Uric acid ($r=0.352$, $P=0.001$), HbA1c ($r=0.212$, $P=0.005$) and Smoking ($r=0.265$, $P=0.01$). Multiple regression test shows that independent determinant of UAE are Blood Pressure {Diastolic ($\beta=0.313$, $P=0.006$) / Systolic ($\beta=0.309$, $P=0.002$)}, HbA1c ($\beta=0.187$, $P=0.010$), Uric acid ($\beta=0.331$, $P=0.0001$) and Onset of DM ($\beta=0.199$, $P=0.041$). The findings extend the relationship between confounding variables and the urinary albumin excretion which emphasize on the importance of screening for microalbuminuria to prevent renal dysfunction and HbA1c measurement on a regular interval for good glycemic control. Further examination is needed in a large population size to clarify the validity between the biochemical parameters.

Biography

Sunita Neupane has completed her BSc MLT from Tribhuvan University, Universal College of Medical Sciences, Bhairahawa, Nepal and Presently studying Masters in Public Administration from Tribhuvan University, Kritipur Campus, Nepal. She is working as a Lab Technologist in Bhaktapur District Hospital. She has published articles in different magazines, newspapers and journal.

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