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## Association between serum uric acid, urinary albumin excretion and glycated haemoglobin in type 2 diabetic patient

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To examine a linear association between serum uric acid concentration, microalbuminuria as well as age, age at onset, duration of DM, blood pressure (BP), body mass index (BMI), and HbA1c in T2DM patients. This cross sectional study included 50 Type 2 diabetes mellitus patients. Type 2 diabetes mellitus was diagnosed according to the WHO criteria. Nephropathy was graded as follows: normoalbuminuria, urinary albumin excretion less than 30 mg/L; microalbuminuria, 30 to 300 mg/L; or macroalbuminuria, more than 300 mg/L. Serum uric acid concentrations were measured by enzymatic method (uricase-peroxidase). The HbA1c was measured using the principle of dry chemistry. Similarly urinary albumin excretion was measured with an immunoturbidometric assay. Mean serum uric acid concentration was  $6.75 \pm 1.36$  mg/dl. Serum uric acid concentration was higher in patients with microalbuminuria ( $7.54 \pm 1.39$  mg/dl) than in patients with normoalbuminuria ( $6.44 \pm 1.23$  mg/dl,  $p=0.009$ ). In addition Serum uric acid concentration was higher ( $p=0.002$ ) in patients with hypertension ( $7.26 \pm 1.48$  mg/dl), than in patients without ( $6.10 \pm 0.82$  mg/dl). Serum uric acid concentration correlated positively with urinary albumin excretion ( $r=0.323$ ,  $p<0.05$ ), age ( $r=0.337$ ,  $p<0.05$ ), age at onset ( $r=0.341$ ,  $p<0.05$ ), and duration of DM ( $r=0.312$ ,  $p<0.05$ ). Multiple regression analysis demonstrated that Serum uric acid concentration ( $\beta = 0.293$ ,  $p<0.0001$ ), duration of DM ( $\beta=0.261$ ,  $p<0.0001$ ), HbA1c ( $\beta=0.173$ ,  $p<0.005$ ), and systolic blood pressure ( $\beta=0.268$ ,  $p<0.005$ ) were independent determinants of urinary albumin excretion. The findings extend the knowledge on the relationship between uric acid concentrations, microalbumin, HbA1c and associated confounding variables among the researchers which highlight the importance of screening for microalbuminuria to prevent renal impairment and measuring HbA1c level on a regular basis for good glycemic control are important in diabetic patients.

### Biography

Sunita Neupane has completed her Bachelor level in two programs (Sociology and Paramedical Sciences) from Tribhuvan University and is running a Post-graduate program, Master in Public Administration from Kritipur, Kathmandu. She is the Lab Technologist of Universal College of Medical Sciences. She has published her papers in magazines, news paper, etc. She has achieved numerous awards by the Kathmandu Chabail Lions Club, Nepal Association for Medical Laboratory Sciences, National Conference, Nepal Medical Laboratory Students Society, Nepal Cancer Support Group and many more.

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