

Serum uric acid level, fasting blood glucose and HbA_{1c} among type 2 diabetes mellitus patients with and without diabetic retinopathy attending the Diabetic Centre, Teaching Hospital Jaffna

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Background and objective: Diabetic retinopathy leads to onset of blindness, especially at advanced age. An increased serum uric acid level is commonly associated with alterations in retinal capillary permeability. This study was carried out to compare the serum uric acid (SUA) level and other biochemical and demographic parameters (fasting blood glucose (FBG), HbA_{1c}, age and duration of diabetes) among type 2 diabetes mellitus patients with and without diabetic retinopathy (DR) attending the Diabetic Centre, Teaching Hospital Jaffna.

Methods: A total of 96 type 2 diabetes mellitus patients attending the Diabetic Centre, Teaching Hospital Jaffna, were recruited. Patients with and without DR were selected by reviewing recent patient records issued by the Diabetic Centre, Teaching Hospital Jaffna. FBG and SUA levels were measured by standard enzymatic methods. Statistical analysis was done using student t test and Pearson correlation.

Results: Out of 96 type 2 diabetes mellitus patients, 43 (44.8%) had DR while 53 (55.2%) did not have DR. Among patients with and without DR: mean age was 67.2 (± 4.8) and 54.8 (± 10.2) years, respectively ($p < 0.001$); mean duration of diabetes was 13.4 (± 3.5) and 7.7 (± 6.1) years, respectively ($p < 0.001$); mean SUA level was 5.42 (± 1.43) and 4.79 (± 1.08) mg/dL, respectively ($p = 0.015$); mean FBG level was 160.6 (± 47) and 140.7 (± 43.9) mg/dL ($p = 0.021$), respectively; mean HbA_{1c} level was 8.06 (± 1.36) % and 8.01 (± 1.16) %, respectively ($p = 0.842$). There was a significant positive relationship between SUA level and age ($r = 0.315$, $p = 0.04$).

Conclusion: SUA level is significantly higher among patients with DR. It is recommended to carry out routine SUA level testing in diabetic patients for early identification of retinal complications.

Keywords: Diabetic Retinopathy, Serum Uric Acid, Type 2 Diabetes Mellitus