

Study and Clinical Significance of Urinary Levels of Glypican 5 in Diabetic Patients

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Abstract

Background:

Diabetic nephropathy (DN) is one of the most serious long-term consequences of type 2 diabetes mellitus (T2DM) because it causes end-stage renal disease (ESRD). We established this study to evaluate the urinary GPC5 level in T2DM as an early marker for DN.

Methods:

We enrolled cases with age of (18 – 70) with T2DM and DN. Patients were classified equally into three groups: Group 1 :30 patients (T2DM patients with DN), group 2: 30 patients (T2DM patients without DN) and group 3 (control group): 30 patients, A suitable number of healthy people without DM.

Results:

Roc curve between controls and DM without nephropathy shows a sensitivity of 83% while specificity was 77%, while Roc curve between DM without nephropathy and DN group shows a sensitivity of 93.3% while specificity was 80%. HbA1c, 2h Post prandial blood glucose, Systolic blood pressure, fasting blood glucose,

diastolic blood pressure, total cholesterol, TG, Low Density Lipoproteins, high Density Lipoproteins, estimated glomerular filtration rate (eGFR), Serum creatinine, Urinary GPC5 creatinine ratio and urinary Albumin creatinine ratio were significantly different between DN group and DM group without nephropathy on univariate analysis. Urinary GPC5 creatinine ratio, Urinary Albumin creatinine ratio, and Serum creatinine were significant predictors to developing nephropathy in DM cases among studied variables.

Conclusions:

Urinary GPC5 was raised in T2DM cases with DN, and it was linked with disease worsening. Urinary GPC5 creatinine ratio is a good alternative diagnostic tool to differentiate between DN group and DM group without nephropathy.

Keywords:

Urinary Levels, Glypican 5, Diabetes mellitus, Diabetic nephropathy

Key Messages: The present study to evaluate the urinary GPC5 level in T2DM.