Potential Serum Biomarkers for Early Detection of Diabetic Nephropathy

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ABSTRACT

Aim: Diabetic nephropathy (DN) is considered as one of the diabetic complications affectingup to 40% of patients with type 1 or type 2 diabetes. In clinical practice, the frequentlyused markers of renal disease and progression are serum creatinine, estimated glomerular filtration rate (eGFR) and albuminuria.

The aim of this study is to determine new biomarkers in human serum which are promising for early detection of DN.

Methods: This study included 50 patients with type 2 diabetes mellitus (T2DM) and 25 clinically healthy individuals. The patients were divided into two groups; group I included 25 T2DM patients with normoalbuminuria, and group II consisted of 25 T2DM patients with microalbuminuria.

In all groups, neutrophil gelatinase-associated lipocalin (NGAL), b-trace protein (bTP) and microRNA- 130b (miR-130b) were estimated.

Conclusion: Our results suggest that serum NGAL and bTP as tubular and glomerular markers respectively, together with serum miR-130b may be independent and reliable biomarkers for early detection of DN in patients with T2DM

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The point of this investigation is to decide new biomarkers in human serum which are promising for early discovery of DN.

Techniques: This investigation included 50 patients with type 2 diabetes mellitus (T2DM) and 25 clinically solid people. The patients were separated into two gatherings; bunch I included 25 T2DM patients with normoalbuminuria, and bunch II comprised of 25 T2DM patients with microalbuminuria.

In all gatherings, neutrophil gelatinase-related lipocalin (NGAL), b-follow protein (bTP) and microRNA-130b (miR-130b) were evaluated.

Results: The serum levels of NGAL and bTP were altogether raised in T2DM patients with microalbuminuria (bunch II) contrasted and T2DM patients with normoalbuminuria (bunch I) and control subjects yet there was no critical distinction between bunch I and control subjects.

Serum miR-130b level was fundamentally diminished in patients with T2DM (bunches I and II) contrasted and solid control subjects, with a higher reduction in their levels in bunch II contrasted and bunch I.

End: Our outcomes propose that serum NGAL and bTP as cylindrical and glomerular markers individually, along with serum miR-130b might be free and solid biomarkers for early discovery of DN in patients with T2DM