**ESTIMATION OF BLOOD MicroRNA-192 IN PATIENTS WITH DIABETIC NEPHROPATHY**

M.G. Saadi, A. A. Elmeligi, M.S. Elansary, A.K. Alkemary, G.R.A. Ahmed.

Department of Internal Medicine, diabetes &endocrinology, Department of Clinical Pathology, Faculty of Medicine, Cairo University.

**Abstract**

**Introduction:** Diabetic nephropathy remains a major cause of morbidity and mortality for persons with either T1DM or T2DM. Blood micRNA-192 may promote the progress of DN by regulating TGF-β1 signaling pathway and may be used as a potential biomarker in the diagnosis of DN.

**Methods:** We studied 60 patients with T2DM divided into three groups according to their urinary albumin excretion Group I: normal albumin/Creatinine ratio, Group II: micro albuminuria, Group III: macro albuminuria, and 20 sex and age matched healthy control participants. All were subjected to thorough history and clinical evaluation, FBG, HbA1c, Creatinine, eGFR and early morning urine sample for testing for albumin/ Creatinine ratio. MicroRNA-192 was quantified in blood using Reverse Transcription TaqMan MicroRNA Assay.

Data analysed using Microsoft Office 2010and (SPSS) version 21, correlation coefficient to determine significant relations between studied parameters.

**Results:** Validating microRNA-192 levels with both urinary albumin excretion and eGFR we found significant positive correlation between microRNA-192 and A/C ratio in the whole study subjects, Group II and Group III with (P<0.001), there was significant negative correlation between microRNA- 192 and eGFR (P <0.001) in whole diabetic group. Also significant positive correlation existed between microRNA-192 and HbA1c in both normo-albuminuria and micro-albuminuria groups which indicates that early renal injury caused by hyperglycaemia is reflected by microRNA-192 level.

**Conclusions:** The results of our study suggest a possible role of micRNA-192 in the pathogenesis and progression of diabetic kidney disease in humans. Also, blood micRNA-192 may be a useful biomarker for predicting the development of, and the stage of diabetic kidney disease.

Because of its role in the pathogenesis and progression of diabetic kidney disease micRNA-192 may provide a novel therapeutic target for preventing the progression of diabetic nephropathy.

**Key Words:** Type 2 diabetes mellitus, Diabetic nephropathy, MicroRNA-192