

## Early Detection of Renal Impairment Among Type II Diabetes Mellitus Patients in Mosul City

### الخلاصة

**Background:** Diabetes mellitus is a category of metabolic diseases characterized by insufficient insulin secretion or action. Due to microangiopathy, diabetics have a higher risk of tissue damage in distal artery-supplied organs and high blood glucose.

**Material and method:** A descriptive study design was conducted on (100) type II diabetic patients who attended Al-Wafaa Specialized Centre for Diabetes and Endocrinology by purposive sampling. A constructive interviewing questionnaire was used to collect information related to sociodemographics, blood sampling for evaluation of serum levels of Cystatine C, serum Creatinine , HbA1c parameters, and blood Urea Nitrogen in a private analytics Lab. The study period runs from the 19th of December 2022, to 6th of July 2023.

**Results:** The estimated glomerular filtration rate based on serum cystatin C showed that (35%) of the type II diabetes mellitus patients were in stage I, (41%) of the patients were in stage II chronic kidney disease with mild glomerular filtration rate reduction, (24%) of the patients were in stage III with moderate decreased glomerular filtration rate.

On the other hand, the estimated glomerular filtration rate calculated using serum creatinine showed that (70%) of the type II diabetes mellitus patients were in stage I, (28%) of the patients were in stage II chronic kidney disease with mild glomerular filtration rate reduction,

(2%) of the T2DM patients were in stage 3 with moderate decreased glomerular filtration rate.

**Conclusions and Recommendations:** Type II diabetes patients have high serum Cystatine C, high serum creatinine levels and increased HbA1c levels. HbA1c and duration of diabetes was positively correlated with s.cystatine c. Based on the results the study recommended the necessity of blood sugar level Control, weight loss and periodic analysis of kidney function to early detect of renal impairment and avoid serious health complications.