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Diagnostic criteria of the functional state of the kidneys in patients with type 2 diabetes mellitus

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**Background and Aims:** The constant increase in the number of patients with type 2 diabetes is clearly explained by the incidence of microvascular complications, including diabetic nephropathy (DN). According to statistics, CKD develops initially in 15% of individuals in the general population. To assess the functional state of the kidneys in patients with type 2 diabetes mellitus.

**Method:** The study included 120 patients with T2DM and were divided into 2 groups. Gr1: 60 patients with DN C1,A1, gr2 with DN C2,A2 whose average age was 60.1 ± 7.6 years. The average DM experience was 7 ± 3.16 years, HbA1C 9 ± 1.82%, BMI 28.05 ± 3.45. Average GFR cr. was 92.6 ± 11.81 ml/min/1.73 m², albuminuria—13.19 ± 3.1 mg/g.

**Results:** In the first group, the decrease in eGFRcr was 7.1%, although the average value was within the reference values. At the same time, the level of serum cystatin C and the calculated eGFRcys in this group were significantly different from the control. The serum concentration of cystatin C was significantly higher (0.64 ± 0.09 mg/ml versus 1.07 ± 0.08 mg, p < 0.05), and the eGFRcys indicator was significantly lower (81.32 ± 6.31 ml/min versus 96.60 ± 5.22 ml/min, p < 0.05) indicator for healthy individuals. In the second group of patients, there was a significant decrease in glomerular filtration rate for both markers compared to the control and the first group. Thus, in patients with DN C2, A2, compared with the control and the first group of patients, the eGFRcr indicator was reduced by 24.2% and 18.3%, respectively (p < 0.01 and p < 0.05), which indicates a pronounced decrease in renal function in this category of patients with type 2 diabetes.

**Conclusion:** Thus, the results obtained showed that in patients with subclinical diabetic nephropathy there is a decrease in glomerular filtration rate, determined by the level of cystatin C. Therefore, eGFRcys is a more accurate indicator of a hidden impairment of renal filtration function compared to eGFRcr.