KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1212

Cistatin C - early marker of kidney injury in children with type 1 diabetes

Khuseyn Gadaev
Department of Urology, Tashkent Medical Academy, Uzbekistan

Objectives: Determine the diagnostic value of serum cystatin C level as a marker of renal damage in children and adolescents.

Methods: 29 patients 4-18 years old with type 1 diabetes mellitus (DM) complicated by diabetic nephropathy (DN) and 30 of their healthy peers were examined. Glomerular filtration rate (GFR) was evaluated by serum creatinine levels (Schwartz formula) and cystatin C (Hawke equation).

Results: In the study, the concentration of creatinine in the blood serum was found that in all patients it was within the reference values of 57.2 [45.0 - 71.4] μmol / liter. In an individual analysis, a decrease in GFR was found in only one patient (3.4%). The serum level of cystatin C in children of the control group was 0.77 [0.69 - 0.82] mg / l. In patients with DN, it is significantly higher - 1.10 [1.06 - 1.20] mg / l, $p < 0.005$, and the GFR calculated by this indicator was significantly lower than when using the Schwartz formula. Diabetic kidney damage in children and adolescents in 100% of cases is accompanied by a decrease in glomerular filtration rate ($p < 0.005$).

Conclusions: An increase in the level of endogenous creatinine and a decrease in glomerular filtration rate, determined by the Schwartz formula, have low information content for the diagnosis of diabetic kidney damage. At the same time, an increase in serum levels of cystatin C and a decrease in GFR calculated by the Hawke equation are noted in these patients. These laboratory changes can be considered markers of decreased renal function in this category of patients.