**Hypertension in children with chronic kidney disease.**Dryl I.S., Gonchar M. O., Muratov G.R., Kolibaeva T.F., Pushkar O.M., Podvalnaja N.A., Chmara N.V., Petrenco E.K.
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Experts of the National Kidney Foundation (NKF) have identified risk factors for the onset and progression of chronic kidney disease (CKD), includeing hypertension. More than half of the children with CKD stages 2-3 have got elevated high blood pressure (BP). Hypertension leads to the rapid progression of CKD, and increased risk of death from cardiovascular disease in adulthood. In children, high BP may be asymptomatic. For the diagnosis of hypertension in children, results from a single measurement of blood pressure are used, while in adults, the daily 24-hour monitoring arterial blood pressure (24h.ABPM) is used.

Purpose: Improving early diagnosis of hypertension in children with CKD based on the data of 24h. ABPM.

Materials and methods. We examined of 86 children with CKD, 53 boys (61,6 ± 5,2%) and 33 girls (38,3 ± 5,2%), the average age was 15,02 ± 2,03 years. Children were divided into 4 groups depending on the type of CKD. The 1st group consisted of 35 children (40,6 ± 5,3%) with congenital anomalies of the urinary system, the 2nd group - 26 children (30,2 ± 4,9%) with chronic glomerulonephritis, the 3rd group -19 children (22,0 ± 4,4%) with chronic pyelonephritis, and the 4th group consisted of 6 children (6,9 ± 2,7%) with hereditary nephritis. All children have adequate renal function. ABPM was performed using complex blood pressure monitoring MDplus.

Results. We learned: index time of systolic blood pressure (IT SBP), index time of diastolic blood pressure (IT DBP), and the magnitude and speed of the morning changes of SBP and DBP. Hypertension was diagnosed with an increase in IT SBP or IT DBP more than 20-25% during the day and more than 10-15% at night.

Daytime hypertension was diagnosed in 17 children (19,4 ± 4,3%) because of an increase in IT SBP, and 14 children (16,2 ± 4,6%) because of an increase in IT DBP. Nocturnal hypertension was detected in 21 (24,4 ± 4,6%) patients because of an increase in IT SBP, and in 27 patients (31,3 ± 5,0%) surveyed because of an increase in IT DBP. As a result, the 24h. ABPM analysis it was found that children with CKD were characterized by nocturnal hypertension because of increase in the DBP.

Among children of the 1st, 2nd and 3rd groups, a high DBP morning surge prevailed. In group 1, an increased rate of morning rise in diastolic blood pressure was recorded in 22,8 ± 7,2% in children and SBP - 14,2 ± 6,0% in children; children of the 2nd group 26,9 ± 8,8% - DBP and 3,8 ± 3,8% in patients SBP (p = 0.004); children of the 3rd group showed an increase only in the morning rise in the diastolic blood pressure (31,5 ± 10,9%; p = 0.014). The average speed of morning rise in SBP was 25,5 ± 15,3%, the average speed of morning rise in DBP was - 16,35 ± 9,5%.

Thus, for children with CKD, it is more common to observe an increase in the DBP morning index, which is a predictor of cardiovascular events in children with CKD.

Conclusions. For the purpose of early detection of hypertension and early correction, daily monitoring of blood pressure should be recommended for all children with CKD, with the calculation of the speed of the morning changes and index time SBP and DBP.