Arterial hypertension in children – continuous monitoring of blood pressure

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Introduction: Arterial hypertension in children is increase of systolic blood pressure and/or diastolic blood pressure above the 95th percentile for age, gender and height. The prevalence of hypertension in children is about 3%. In diagnosis, treatment, and prognosis of hypertension in children, important place is given to non-invasive continuous 24-hour automatic blood pressure measurement.

Aim: The aim was to display results of continuous 24-hour blood pressure measurement in clinical environment.

Methods: The study had retrospective-prospective character, and included the period March 1996.-January 2015. (n = 615). Data were collected from „The Register of Holter blood pressure“ of Pediatric Clinic, CCUS.

Results: Patients were aged from 6 months to 18 years. On 370 males (60,1%), 245 females (39,9%), continuous monitoring of tension was performed in order to diagnose, threat or adjust the therapy of hypertension. Most of them were children of school age- 333 (54,1%), there were 246 adolescents (40%), and 36 (5,9%) were preschool children. First monitoring was in 421 (68,4%) cases, a control monitoring in 194 (31,6%), mainly related to the control of treatment efficacy. Of 421 patients, hypertension was proven in 169 (40,1%). Primary (essential, idiopathic) hypertension was in 74 (43,7%) patients, and secondary in 95 (56,3%). Secondary hypertension was related to endocrine diseases with or without metabolic syndrome in 30 (31,5%) patients, kidney disease (parenchymal and vascular) in 25 (26,3%), cardiac diseases in 14 (14,7%) patients, neurological diseases in 7 (7,3%), systemic diseases in 7 (7,3%), other causes of hypertension in 12 (12,9%) patients. 73 patients (17,3% of all monitored, 43,1% of verified) were treated with antihypertensive therapy, only with antihypertensive agents (ACE inhibitors, beta blockers) 52 (71,2%) of them, with antihypertensive and other therapy 21 (28,8%) of them.

Conclusion: 24-hour continuous pressure measurement is necessary clinical method in everyday diagnostics, especially in early diagnosis and treatment of hypertension in children.

Keywords: arterial hypertension, children, monitoring