

Arterial Hypertension in Children in North-Eastern Romania

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INTRODUCTION: Hypertension, a major cardiovascular risk factor, is still a major public health problem worldwide. Unlike in adults, the incidence of hypertension in children is not known, due to the lack of studies for this specific population. Still, hypertension is more and more frequently diagnosed in children. In this population, hypertension is rarely essential, therefore if the cause can be determined, it can often be cured. This is important because untreated hypertension correlates with heart failure, myocardial infarction or stroke in the adult-to-be. The goal of this study was to describe the profile of the hypertensive pediatric population in north-eastern Romania.

METHODS: We have performed a retrospective analysis of pediatric patients hospitalized in the Pediatric Cardiology Ward of "Sfanta Maria" Emergency Children's Hospital in Iasi, Romania, diagnosed between July 2005 and June 2010 with arterial hypertension. The study protocol included age, sex, height, weight, body mass index, history of the disease, clinical examination, nutritional evaluation, urinalysis, biochemical parameters, lipid profile, renal ultrasound, echocardiography, endocrinological examination, angioCT, blood pressure monitoring.

Blood pressure values were interpreted according to the latest child hypertension classification "The Fourth Report on the Diagnosis, Evaluation and Treatment of High Blood Pressure in Children and Adolescents" - 2007. Hypertension was defined as SBP/DBP \geq 95th percentile (after 3 measurements).

RESULTS: 83 patients (51 boys and 32 girls) were identified to have arterial hypertension; children were aged $13,68 \pm 4,2$ years. 41 children (49,3%) were obese. 3 patients (2 girls and 1 boy) were diagnosed with coarctation of the aorta. One patient was diagnosed with adrenogenital syndrome and another one with neurofibromatosis. Urinalysis and biochemical parameters were normal in all cases. 17 children (20%) had elevated total cholesterol levels and 9 patients (10,8%) had severe hypercholesterolemia (>200 mg/dl). 3 patients (3,6%) had renovascular abnormalities. The diagnosis of coarctation of the aorta was established by angioCT in 3 cases.

CONCLUSIONS: The most important risk factors associated with arterial hypertension were obesity, hypercholesterolemia and heart malformations. For children and adolescents with hypertension, initial evaluation should consist of ambulatory blood pressure monitoring, cholesterol level measurement, lipidic profile, renal ultrasound, endocrinological examination and echocardiography.