

Cardiovascular Risk in children: outpatient clinics allow early and timely stratification and treatment.

Gomes I., Cardoso B., Loureiro P., Rito T., Pinto F.

Serviço Cardiologia Pediátrica, Centro Hospitalar Lisboa Central, Lisboa, Portugal

Introduction:

The increasing prevalence of cardiovascular risk factors in children needs a structured approach with both early identification and treatment of these patients.

Aim: We aimed at characterizing the methodology and the results in a Paediatric Cardiology centre with a specialized outpatient clinic in this field.

Methodology: Retrospective study was performed from chart review, and classic risk factors, anthropometry, atherogenicity index and insulin-resistance index (HOMA-IR) were analysed. Every patient is evaluated clinically and ECG, echocardiogram and peripheral arterial tonometry (PAT) are routinely obtained. Patients with suspicion of high blood pressure or association of 2 or more risk factors had additional ambulatory monitoring of blood pressure (AMBP); renal and abdominal ultrasound.

Results: We studied 201 patients, 60% females, mean age 13.9 years (range 6-19) and mean BMI 29.7 (50 patients had BMI > 30). They were referred because of: obesity (63.7%), high blood pressure (53%), hypercholesterolemia (12.4%) and first degree relatives with major cardiovascular events. In the studied population, 2 or more risk factors were prevalent in 42% of patients, 4 patients presented congenital heart defects and 2 Marfan's. The lipid mean values were: total cholesterol: 171,4±38,4 mg/dL; HDLc: 49,2 ± 15,9 mg/dL; LDLc 109,6±35,6 mg/dL and triglycerides: 93,5±62,1 mg/dL. In 32 patients, mean total cholesterol was elevated (233 mg/dL), with high atherogenicity index in 11. Familial Hypercholesterolemia was confirmed in two patients, with mutation of LDLR and suspected in 7. Mean fasting glucose was 97.7 mg/dL, and 27 patients had high levels, but only 4 had Type 1 Diabetes Mellitus. AMBP performed in 73 patients showed high blood pressure in 58 with 19 patients exclusively non dipper. We found endothelial dysfunction in 38 patients with had renal failure and dislipidemia. Pharmacologic treatment was started accordingly to international guidelines, after a period of lifestyle changes.

Conclusions:

A structured evaluation of cardiovascular risk factors in paediatric age in a selected population combining several indexes, TAP and AMBP was accurate to evaluate and follow these patients. This methodology also permits selective genetic testing for Familial Hypercholesterolemia allowing identification of 4 cases of FH in 2 families.