MP3-14

Value of research of plasma homocysteine-risk factor for cardiovascular diseases, in obese school children

Dimitriu L.(1), Dimitriu A.G.(2)
Medex Medical Center Iasi Romania(1), University of Medicine and Pharmacy Iasi Romania

Background.Elevated plasma homocysteine level is an independent risk factor for cardiovascular disease and a sensitive marker of inadequate vitamin B12 and folate status. Such high values were highlighted and in the child obesity, homocysteine can play a role in the higher risk for cardiovascular disease in these children.
Purpose: to research plasma Hcy values in obese child compared with a control group of non obese children and
correlations with blood pressure values and blood levels of total cholesterol and tryglyceride. Methods. Patients: 41 children aged 8-18 years of which 31 obese and 10 nonobese healthy children, without cardiovascular diseases. All children received clinical examination, determination of plasma levels of homocysteine in the morning after 12-hour fasting, total cholesterol, tryglyceride, bloog glucose. In all children was assessed morphological and functional cardiac aspects by echocardiography.Results. Plasma levels of homocysteine were elevated in 41,6% of children with obesity, compared to the control values:the mean 8,9±1,7 µmol/ vs 6,1±2,4 µmol/ . Increased levels of Hcy in obese children was more important to the in obese children with hypertension (5 cases). Elevated Hcy were often associated with high total cholesterol ± triglycerides in obese children compared with control values. Blood glucose levels were normal. Eccocardiographic changes in obese children: slight increase in LV wall thickness, dilated left atrium, LV diastolic dysfunction in 35%% of cases, but with normal LV ejection fraction, mainly in cases the most increased values of Hcy. C onclusions. In obese children and mainly in those with hypertension were noted an increase in plasma homocysteine values often associated with elevated total cholesterol ± triglyceride levels. Research and systematic monitoring of values of plasma homocysteine correlated with cholesterol and triglyceride levels allows an objective estimation of cardiovascular risk in children with obesity and an indication for cardiovascular prevention effective measures.