THE ASSESSMENT OF GLUCOSE TOLERANCE IN CHILDREN WITH OBESITY

C.M. Mihai¹, R.M. Stoicescu², L. Mihai¹, V. Cuzic¹, A. Balasa¹

¹*Paediatric, Ovidius University, Faculty of Medicine, ²Immunology, Ovidius University, Faculty of Pharmacy, Constanta, Romania*

Introduction: Obesity beginning in childhood is emerging in alarming rates worldwide.

Material and methods. The aim of this study was to determine the prevalence of impaired glucose tolerance and type 2 diabetes mellitus in a group of Caucasian children and adolescents with obesity.

A total of 102 subjects (54 boys, 48 girls), mean age: 13,12 y (range 7.1-17.9 y) with a BMI > 95 th percentile, who were consecutively admitted to an in-patient Diabetes, Nutrition and Metabolic Disorders Unit participated in this study. A 2-h oral glucose tolerance test (1.75mg of glucose per kilogram of body weight) was performed, with the concomitant determination of glucose and insulin. Insulin resistance was estimated by homeostatic model assessment. (HOMA).

Results: Patients were divided into: normal glucose tolerance, impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and diabetes. Type 2 diabetes was diagnosed in 1 patient (0.98%). IFG was detected in 3 patients (2.94%) and IGT in 2 (1.96%). In 5.88% of the patients, impaired glucose tolerance (IFG, IGT) or diabetes were identified, along with a higher BMI-SDS, higher levels of fasting insulin and a higher insulin resistance index than the patients with normal glucose tolerance.

Conclusions: Screening for diabetes in children and adolescents diagnosed with obesity is highly recommended. Patients identified with impaired glucose tolerance could participate earlier in specific treatment programs in order to prevent progression to diabetes.