

Prevalence of abnormalities of glucose metabolism in obese Greek children and adolescents

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Background: Obesity is associated with alterations in glucose metabolism, often present from childhood.

Objective and Hypotheses: To assess the prevalence of glucose metabolism alterations and insulin resistance in a group of obese, otherwise healthy, children and adolescents from Greece.

Methods: It is a retrospective study of 130 obese children and adolescents, 79 girls (61%), aged 5.4 to 15.2 years (mean \pm SD: 10.8 \pm 2.1). Obesity was defined according to IOTF criteria. All subjects underwent an oral glucose tolerance test (OGTT). Fasting insulin, HOMA index and insulin values on OGTT were used as indexes of insulin resistance.

Results: No case with impaired fasting glucose was detected. Impaired glucose tolerance was observed in 15.5% of subjects. Only one boy aged 13.5 years had diabetes type 2. Insulin resistance was found in 29% of subjects by the use of HOMA index and in 48% by the insulin response in OGTT,

Conclusions: Disturbances in glucose metabolism are present in a considerable number of young subjects and insulin resistance is the earlier abnormality in glucose homeostasis. This emphasizes the usefulness of OGTT as a screening tool for identification of subjects with small disturbances of glucose metabolism and prevention of type 2 diabetes through intensive intervention.