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## PROBLEM OF THE DYSGLICEMIA DAIGNOSIS IN CHILDREN

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### **Background.**

According to the International Diabetes Federation (IDF) velocity of diabetes took pandemic scale. Diabetes and prediabetes are associated with underlying micro- and macrovascular problems, which is the leading cause for disability. There is an increasing of the type 2 diabetes in modern pediatric population in combination with obesity, dyslipidemia, and hypertension. These associations allows to detect a Metabolic syndrome (MS) in children.

Dysglycemia is the main component of MS as it's strongly pathogenically dependent on insulin resistance. As it was stated it's about 10 years necessary for the complete cluster of MS. That's why dysglycemic variants diagnosis in children is necessary for the detection an early stages of MS.

Typically the oral glucose tolerance test (OGTT) is necessary for the dysglycemia detection. According to the IDF and WHO recommendations it can be discovered the impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and diabetes mellitus (DM). Nevertheless the shape of glycemic curve is attract the attention even these states weren't revealed.

**Aim** – dysglycemia variants establishment in obese adolescents.

**Methods.** It were OGTT results with the area under the glycemic curve (AUC) calculation as well as fasting insulin level with HOMA-IR index were analyzed in 208 obese adolescents.

### **Results.**

It was established the presence of IFG in  $10,15 \pm 2,09$  subjects, IGT in  $2,89 \pm 1,16$  and type 2 DM in  $0,96 \pm 0,82$ . The analysis of the glycemic curve shown it's diabetic shape in  $86,82 \pm 2,34$  kids with concomitant fasting insulin resistance. The AUC curve values were increasd to  $779,8 \pm 12,04$  units. The strong association in-between HOMA-IR and AUC was established ( $P < 0,001$ ).

### **Conclusion.**

1. Absence of impaired fasting glucose, impaired glucose tolerance and diabetes mellitus by the usual recommendation doesn't mean the absence of dysglycemia in obese adolescence.
2. The calculation the area under the glycemic curve is necessary component of examination the carbohydrate exchange disorders as well as calculation of the fasting HOMA-IR index in obese as it might reveal preclinical disorders, which is necessary for the early interventions.