

Predictors of non-alcoholic fatty liver disease in obese children

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Objective: to evaluate predictors of non-alcoholic fatty liver disease (NAFLD) in obese children.

Subjects: two hundred and sixty-eight obese children not consuming alcohol and without hepatitis B or C were consecutively studied at an auxology clinic.

Measurements: alanine aminotransferase (ALT), aspartate aminotransferase (AST), gamma-glutamyl-transferase (GGT), cholesterol, high-density lipoprotein (HDL)-cholesterol, low-density lipoprotein (LDL)-cholesterol, triglycerides, uric acid, glucose, glucose during oral glucose tolerance testing (OGTT), insulin, insulin during OGTT, insulin resistance as estimated by homeostasis model assessment (HOMA), C-reactive protein (CRP), and systolic and diastolic blood pressure were measured. Fatty liver was diagnosed by ultrasonography using standard criteria. Univariable and multivariable logistic regression was used to evaluate predictors of NAFLD. All predictors except gender and pubertal status were modeled as continuous variables.

Results: NAFLD was detected in 44% of obese children. At univariable analysis, male gender, Z-score of body mass index (BMI) (Z-BMI), ALT, AST, GGT, triglycerides, uric acid, glucose, glucose during OGTT, insulin, insulin during OGTT, HOMA, CRP and systolic blood pressure were predictors of NAFLD, whereas HDL-cholesterol and late-pubertal status were predictors of the normal liver. At multivariable analysis, however, only Z-BMI, ALT, uric acid, glucose during OGTT and insulin during OGTT were independent predictors of NAFLD.

Conclusion: Z-BMI, ALT, uric acid, glucose during OGTT and insulin during OGTT are independent predictors of NAFLD in Italian obese children, with most of the prediction explained by ALT and Z-BMI.

Se desidera avere la fotocopia di questo lavoro, per esclusivo uso personale, può fare richiesta per mail a: info@cresceresani.it indicando il titolo, gli autori, la rivista e il proprio recapito lavorativo (nome, cognome, indirizzo, CAP, città).