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Obesity in relation to hypertension in a sample of Egyptian adolescents with insulin resistance

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Obesity is a global epidemic disease that goes worse in many countries all over the world and has very serious effects on health status and economy of the community. The aim of this study is to evaluate association between Obesity and high blood pressure levels in a sample of obese Egyptian adolescents with insulin resistance (IR). Cross-sectional study was conducted on 200 obese adolescents with (IR), aged between 16 and 17 years (100 males and 100 females) and 200 non obese healthy controls matched in age and sex. Anthropometric parameters, body composition, fasting insulin and glucose were measured. IR was evaluated by the Homeostasis Model Assessment-Insulin Resistance (HOMA-IR). Spearman correlation and multiple regression analysis were used to assess the relationship. Receiver operating characteristic curve (ROC) analysis was performed to obtain the best cut off values, sensitivity and specificity for discrimination of hypertension in obese IR. Results show positive correlations between systolic and diastolic blood pressure, HOMA-IR, Body Mass Index (BMI), waist circumference and body fat%. Multiple regression analysis showed that BMI, waist circumference, waist to hip ratio and body fat percentage were independently related to Systolic and Diastolic blood pressure in IR patients in both genders, suggesting the importance of their use in evaluation of hypertension among obese adolescents with IR.

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