

Dimitrijevic-Sreckovic V, Djordjevic P, Sreckovic B, Civcic M, Soldatovic I, Popovic S et al. **Important effects of visceral obesity and insulin resistance on decreased testosterone, erectile dysfunction and non-alcoholic fat liver disease.** *Drug Metabolism and Drug Interactions* 2012; 27(3):A35-A36.
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Abstract: Background: Visceral obesity, which in fact is a metabolic syndrome (MS), is related to decreased testosterone and sex hormone-binding globulin (SHBG) in adults. Insulin resistance (IR) results in fat deposition in the liver and occurrence of non-alcoholic fat liver disease (NAFLD). Objective: In this we examined testosterone relationship with abdominal obesity, MS, IR and NAFLD in obese pre-diabetic patients, sex hormones in obese young males and correlations with visceral obesity, lipid status and blood pressure. Design: Cross-sectional study. Methods: The study included 114 obese and impaired glucose tolerance (IGT) patients (age>45) and 44 obese male individuals (age 16- 30) classified into two groups: I-with low testosterone <12.0nmol/l; II-with testosterone $\geq 12,0$ nmol/l. The following parameters were observed: waist circumference (WC), blood pressure, lipids, microalbuminuria. SGOT, SGPT and +-GT were liver function parameters. IR was determined by HOMA IR. Testosterone was determined by radioimmunoassay. Results: Results for IGT groups I and II were as follows: WC:I-121.3-|17.4, II-109.9-|11.9 cm; HDL:I-1.06-|0.13,II-1.08-|0.2mmol/l; triglycerides:I- 3.3-|1.9,II-2.1-|1.5mmol/l; insulin:I-34.9-|33.7,II-22.3-|10.4IU/l; HOMA IR:I-8.8-|10,II5.6-|3.47++mol/mU/ml; microalbuminuria:I-96.6-|85.6, II-67.7-|49.5mg/24h; SGOT:I-36.97-|46.7,II-23.47-|8.7;SGPT:I-52.27-|52.7, II-33.37-|14.4U/l; +-GT:I-59-|46U/l, II-41-|32U/l. Correlations (adults): testosterone negative with WC, SGPT (p<0.05) and SGOT (p<0.001). Decreased testosterone (<12.0nmol/l) was found in 11.3% obese young males (8.1-|3.1nmol/l), with low SHBG (10.6-|4.5) and normal FSH, LH and estradiol. Correlations (youth): WC negative with testosterone and SHBG (p<0.05); SHBG negative with BMI (p<0.05), systolic and diastolic blood pressure (p<0.01); Conclusion: Low testosterone is characterized by obesity, MS parameters, microalbuminuria, hyperinsulinism, IR and NAFLD. Negative correlation of testosterone with WC, SGOT and SGPT confirms the important effect of visceral obesity and IR on the occurrence of erectile dysfunction and NAFLD in IGT adults with MS. Negative correlation of WC with testosterone and SHBG and of SHBG with BMI and blood pressure confirms the important effect of visceral obesity and IR on possible occurrence of erectile dysfunction and infertility in youth with MS