

Serum Testosterone Level and QT interval in Non-obese, Generally Obese and Centrally Obese Male Adult Subjects

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Objectives: This study was undertaken to analyze serum testosterone level and QT interval in non-obese, generally obese and centrally obese male adult subjects.

Materials and Methods: A community- based cross-sectional comparative study was done in 30 non-obese subjects [Body Mass Index (BMI) 18.5 to 24.9 kg/m²], 30 generally obese subjects (BMI ≥ 30.0 kg/m²) and 30 centrally obese subjects [BMI ≥ 30.0 kg/m² and waist circumference (WC) ≥ 90 cm] residing in Magway Township. Serum testosterone level was investigated by enzyme-linked immunosorbent assay. QT interval was measured by routine 12-lead ECG with Lead II rhythm strip for 10 seconds and corrected QT interval (QTc) was calculated. Comparison was done by Bonferroni post hoc test and correlation analysis was done by Pearson's correlation coefficient by using SPSS.

Results: Mean serum testosterone level of centrally obese subjects (3.41±1.31 ng/mL) was significantly lower than that of non-obese subjects (5.81 ± 2.35ng/mL, p< 0.001) as well as generally obese subjects (4.55±1.24ng/mL, p< 0.05). Mean QTc of centrally obese subjects (488.28 ± 63.18 ms) was significantly higher than that of non-obese (395.87 ± 25.43 ms) (p< 0.001) and generally obese subjects (437.22 ± 53.38 ms) (p< 0.001). There were significant negative correlation between serum testosterone level and QTc (r=-0.25, p< 0.05, n=90) as well as WC (r=-0.57, p<0.001, n=90).

Conclusion: It can be concluded that central or visceral obesity is more risky for testosterone deficiency and cardiovascular diseases. Obesity related low testosterone level might attribute to prolonged QTc.