

THE CORRELATION BETWEEN METABOLIC MARKERS, LUTS AND HYPOGONADISM IN MIDDLE AGED MEN

Hypothesis / aims of study

Metabolic syndrome (MetS), a metabolic disorder characterized by insulin resistance with compensatory hyperinsulinemia, encompasses components of central obesity, hypertension, dyslipidemia and glucose intolerance. Novel biologic markers were correlated with Mets in recent reports, such as adiposity and other body compositions.^{7,8} Some studies connected the association between MetS, lower urinary tract symptoms (LUTS) and hypogonadism, but the evidence about correlation between MetS components/body compositions with hypogonadism for middle-aged men is scarce.

We conduct a prospective study and utilize a regression model with MetS components as potential predictors, to investigate the correlation between MetS components and hypogonadism for middle-aged men receiving health check-up

Study design, materials and methods

Around 3000 subjects with complete assessment were enrolled. Participant demographics and health history, as well as international prostate symptoms score (IPSS) and sexual score (IIEF) were collected by a self-administered questionnaire. Scores were compared between two groups (MetS vs. non-Mets). A logistic regression was used to analyze the correlations between Mets and all potential predictors.

Results

Demographically, the hypogonadism group had significantly higher mean age and serum PSA. Compared to control group, the hypogonadism group suffered from more LUTS, including total IPSS, QoL score, each IPSS item, and higher fatness, percent body fat, body fat mass and raised waist circumference (WC) (All $P < 0.05$).

For total subjects, age (OR=2.45, 95%CI 1.74-3.45), serum PSA (OR=2.75, 95%CI 1.96-3.86), raised WC (OR=1.45, 95%CI 1.02-2.07), raised fatness (OR=1.47, 95%CI 1.04-2.09) and raised body fat mass (OR=1.43, 95%CI 1.00-2.03) were independent predictors for hypogonadism. For men with bothersome LUTS, age, serum PSA, raised WC and raised blood pressure were independent predictors of hypogonadism.

Interpretation of results

Increased sympathetic nervous system activity and inflammation were two main effects due to Insulin resistance with secondary hyperinsulinemia, which are associated with more severe LUTS and hypogonadism. In the present study, raised BP and WC were two independent predictors for middle aged men with bothersome LUTS and adiposity markers including fatness and body fat mass were found better predictors for hypogonadism than BMI, and the genetic, hormonal or nutritional factors may account for the connection between body adiposity and hypogonadism.

Concluding message

In the present study, we confirmed that hypogonadism correlated with age, serum PSA, raised WC and adiposity markers including fatness and body fat mass. For men with bothersome LUTS, raised WC and raised blood pressure were two MetS components that account for predictors for hypogonadism.

References

1. Nutr Metab Cardiovasc Dis 2011;21(9):643-50
2. BJU Int 2010;105(8):1136-40

Disclosures

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