

EFFECT OF INSULIN RESISTANCE ON THE SEVERITY OF LOWER URINARY TRACT SYMPTOMS IN THE MEN WHO UNDERWENT REGULAR HEALTH CHECKUPS

Hypothesis / aims of study

Recent evidence has revealed that metabolic syndrome (MS) might be related to the severity of lower urinary tract symptoms (LUTS). The correlation between MS and LUTS, however, is still controversial. We investigated the relationship between the severity of LUTS and insulin resistance (IR) which is the underlying pathological condition of MS.

Study design, materials and methods

We evaluated the data of 875 men who visited our health promotion center for routine checkups including serum PSA, testosterone, fasting glucose, and fasting insulin between September 2011 and February 2012. All the examinees were evaluated with International Prostate Symptom Score (IPSS) questionnaire and transrectal ultrasonography (TRUS). HOMA-IR (homeostatic model assessment-IR) and QUICKI (quantitative insulin sensitivity check index) were calculated as the indicators of IR. Examinees were divided into two groups based on the severity of LUTS: group A with IPSS less than 7 and group B with IPSS more than 8.

Results

Of the total 875 men, mean age, median serum PSA level and median volume of the prostate were 55.3 years, 1.01ng/ml and 27.7ml, respectively. There were 618 (70.6%) men in group A, and 257 (29.4%) in group B. Severity of LUTS significantly correlated with HOMA-IR ($\gamma=0.094$, $P=0.005$) and QUICKI ($\gamma=-0.094$, $P=0.005$). In comparison with group A, group B had significantly higher HOMA-IR (1.52 vs. 1.66, $P=0.022$) and lower QUICKI (0.36 vs. 0.35, $P=0.022$). Using multiple binary regression analysis, age (OR=1.024, $P=0.050$) and HOMA-IR (OR=1.139, $P=0.019$) were independent predictors for intermediate to severe LUTS (group B). Age (OR=1.024, $P=0.048$) and QUICKI (OR=0.005, $P=0.008$) were also independent predictors when HOMA-IR was replaced to QUICKI.

Interpretation of results

IR is an independent predictive factor for the severity of LUTS along with age. Men who are less sensitive to insulin tend to have more severe LUTS.

Concluding message

Further studies are needed to verify the clinical usefulness of the HOMA-IR and QUICKI with regard to LUTS.

Disclosures

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