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PROSTATE SIZE CORRELATES WITH FASTING BLOOD GLUCOSE IN NON-DIABETIC BENIGN PROSTATIC HYPERPLASIA PATIENTS WITH NORMAL TESTOSTERONE LEVELS

Hypothesis / aims of study

Aging and testosterone are known to be the most important factors in the development of benign prostate hyperplasia (BPH). Recently, hyperinsulinemia associated with insulin resistance has also been shown to be an independent risk factor for BPH. We evaluated the correlations between body mass index (BMI), fasting glucose, insulin, testosterone level, insulin resistance, and prostate size in non-diabetic BPH patients with normal testosterone levels.

Study design, materials and methods

Data from 212 non-diabetic BPH patients with normal testosterone levels, who underwent transurethral resection of the prostate (TURP) due to medical treatment failure, were evaluated retrospectively. Patients with PSA levels of ≥ 3 ng/ml underwent multicore transrectal prostate biopsy before TURP to rule out prostate cancer. Patients with diabetes mellitus (DM) or serum testosterone levels of < 3.50 ng/ml were excluded from analysis. Correlations between clinical and laboratory parameters were determined.

Results

Prostate size correlated positively with age (r=0.227, P<0.001), PSA (r=0.510, P<0.001), and fasting glucose level (r=0.186, P=0.007), but not with BMI, testosterone, insulin level, or insulin resistance (each P>0.05). Testosterone level inversely correlated with BMI (r=-0.327, P<0.001), insulin level (r=-0.207, P=0.003), and insulin resistance (r=-0.221, P=0.001), but not with age, prostate size, PSA, or fasting glucose level (each P>0.05). Upon multiple adjusted linear regression analysis, prostate size correlated with elevated PSA (P<0.001) and increased fasting glucose levels (P=0.023).

Interpretation of results

Prostate size did not correlate with BMI, insulin levels, insulin resistance, or testosterone levels, but that fasting glucose levels positively correlated with prostate size in non-DM BPH patients with normal testosterone levels.

Concluding message

In non- DM BPH patients with normal testosterone levels, fasting glucose level was an independent risk factor for prostate hyperplasia.

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What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**The Institutional Review Board and the Ethics Committee of Chungbuk National University**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**