

THE IMPACT OF THE OBESITY ON THE PROSTATE

Hypothesis / aims of study

The benign prostate hyperplasia (BPH) is easily seen in the male in their old ages and a disease which affect the quality of life much. Recent studies show that not only traditional risk factors in the BPH, but also new risk factors including obesity, smoking, male hormone and family history have been emerged as new risk factors which cause the BPH. Therefore, the study investigates how the obesity affects the prostate by comparing and analyzing the age, obesity level and BPH.

Study design, materials and methods

This study investigates how the obesity affects the prostate by comparing and analyzing the age, obesity level and BPH. Then the study performs the survey on the IPSS and the quality of life for the male subjects under the medical checkup by the prostate health management association from 2004 to 2011 and measures the size of the prostate using the transrectal ultrasound (TURS). In addition, the study inspects the prostate specific antigen (PSA) and calculates the body mass index (BMI) by measuring the heights and the weights of the subjects. Then, the study investigates the correlation by performing the correlation analysis among each factor. The cases of being diagnosed either higher 10 PSA or prostate cancer and the prostate operation are excluded.

Results

The study analyzes a total of 4,736 males. The average age is 68.4 ± 8.4 years old and the subjects consist of 89 in their 40s, 651 in their 50s, 1699 in their 60s, 1868 in their 70s and 429 in their 80s. The average PSA is 1.47 ± 1.52 pmol/ml and the average TURS is 27.9 ± 12.60 g. The total average of the IPSS is 15.92 ± 8.55 points and the quality of life is 3.41 ± 1.27 . The BMI shows negative correlation with the age, IPSS and quality of life (Pearson correlation coefficient: -0.228, -0.077 and -0.40, respectively, $p < 0.01$). And the BMI shows the positive correlation with the size of the prostate (Pearson correlation coefficient: 0.109, $p < 0.01$). However, it has no significant relation with the PSA ($p > 0.01$). The size of the prostate shows significant relation with the IPSS, quality of life, PSA, BMI and age (Pearson correlation coefficients: 0.146, 0.138, 0.548 and 0.198, respectively, $p < 0.01$). The study performs the regression analysis under the assumption that the BMI and the prostate size affect each other. The analysis shows the tendency that the higher BMI means the bigger prostate ($t = 7.523$, $p < 0.01$).

Interpretation of results

It shows that the higher obesity level tends to have larger size of the prostate.

Concluding message

It shows that the higher obesity level tends to have larger size of the prostate. That is, it may be said that increasing the prostate size means more possibility for the lower urinary track symptoms. Therefore, it may be thought that it is required to maintain proper weight to prevent the lower urinary track symptoms and there shall be more studies.

Disclosures

Funding: no **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** retrospective study **Helsinki:** Yes **Informed Consent:** Yes