299

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ASSOCIATION OF METABOLIC SYNDROME AND BENIGN PROSTATE ENLARGEMENT IN YOUNG MALE

Hypothesis / aims of study

This study was designed to evaluate the relationship between metabolic syndrome and benign prostate enlargement(BPE) in young male. We analyzed the clinical data associated with the metabolic syndrome and prostate volume.

Study design, materials and methods

We retrospectively analyzed the clinical data from 1506 young men under age of 60 out of 2,726 men who visited the health promotion centre in our institution for routine check-up. The patients were interviewed with a questionnaire that included the International Prostate Symptom Score (IPSS) and were evaluated with medical history, blood sampling, digital rectal examination, and prostate volume by transrectal ultrasonography(TRUSG). The presence of the metabolic syndrome was determined according to the modified NCEP-ATP Ⅲ criteria. We divided the subjects into two groups; those with metabolic syndrome and those without. Logistic regression analysis was performed to determine which metabolic components were associated with an increased risk for benign prostate enlargement.

Results

There were significant differences in prostate volume between groups The prostate volume was significantly larger in metabolic syndrome group than non-metabolic syndrome group in all subgroups divided by decades of age (table). However, there was no significant difference in IPSS, voiding or storage sub score. In multivariate regression analysis, only diabetes and obesity were risk factors for benign prostate enlargement among metabolic components.

Interpretation of results

According to the results of our study, presence of diabetes and obesity were significant predictors of BPE measured by TRUSG in young male. In addition, prostate volume was significantly greater even in men with metabolic syndrome from as early as their thirties.

However, our study has its own limitation. This study was conducted in single institution and possibly subjected to selection bias. The conclusion of this study might be difficult to apply in general population. Further study with large scale in general population would be needed to confirm the results of our study.

Concluding message

The results of this study proved that metabolic syndrome and prostate volume are significantly related even in young male. Diabetes and obesity were identified as significant risk factors of benign prostate enlargement in young male under age of 60.

Table 3. Comparison of age-subgroups with and without metabolic syndrome

30 < Age d"
4 0 M S g r o u p N M S g r o u p P -
v a l u e I P S S 4 . 0 ± 2 . 6 3 . 9 ± 2 . 9 0 . 6 9 3 V o i d i n
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2 1 . 3 ± 1 . 2 0 . 6 3 6 P S A 0 . 7 5 ± 0 . 3 4 0 . 7 6 ± 0 . 4 2 0 .
8 2 7 T P V 1 8 . 6 ± 4 . 8 1 7 . 6 ± 3 . 9 0 . 0 3 1 T Z V 7 .
8 ± 2 . 2 6 . 9 ± 2 . 1 < 0 . 0 0 1 4 0 < A g e d"
5 0 I P S S 6 . 4 ± 3 . 9 6 . 1 ± 3 . 7 0 . 5 7 1 V o i d
i n g s u b s c o r e 3 . 5 ± 2 . 4 3 . 5 ± 2 . 7 0 . 8 7 3 S t o r a g e
s u b s c o r e 2 . 8 ± 2 . 0 2 . 6 ± 1 . 7 0 . 3 3 1 Q
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Specify source of funding or grant	**None**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Institutional Review Board in Eulji University Hospital**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**