

VISCERAL FAT IS A SIGNIFICANT RISK FACTOR OF STORAGE SYMPTOMS IN PATENTS WITH BPH/LUTS

Hypothesis / aims of study

Relationship between metabolic syndrome (MetS) and lower urinary tract symptoms (LUTS) has recently attracted considerable attention. The key words for MetS are visceral fat obesity and insulin resistance. It is suggested that overactivity of the sympathetic nervous system takes part in the development of benign prostatic hyperplasia (BPH) and LUTS¹⁾. In this study, we investigated the impact of visceral fat obesity on LUTS and clinical parameters in patients with BPH.

Study design, materials and methods

We studied 233 patients with BPH/LUTS. Parameters in this study included international prostate symptom score (IPSS), overactive bladder symptom score (OABSS), urination parameters as measured by uroflowmetry (UFM), postvoid residual urine volume (PVR), prostate volume (PV), serum PSA, and visceral fat area on abdominal CT. Visceral fat measurements were made from the x-ray absorption value (-50~-150HU) of CT images including the umbilical area. After plotting the regions of interest, we measured visceral fat area by counting the relevant pixels. $P < 0.05$ was considered statistically significant.

Results

Mean age of the patients was 72.1 ± 9.5 years. Mean IPSS, QOL index and OABSS were 15.7 ± 4.8 , 4.5 ± 0.9 , 4.0 ± 2.8 , respectively. In UFM, mean voided volume, maximum flow rate and PVR were 169.0 ± 93.8 ml, 11.7 ± 5.0 ml/s and 45.3 ± 60.6 ml, respectively. Mean PV, PSA and visceral fat area in CT were 34.4 ± 21.5 ml, 2.0 ± 2.1 ng/ml, and 108.9 ± 63.8 cm², respectively. Visceral fat area of 100 cm² or above is one of proposed diagnostic standard of MetS, but there were no significant differences in any parameters between the groups with visceral fat area of 100 cm² or above (104 cases) and below 100 cm² (129 cases). Looking at the relationship between visceral fat area and subjective parameters, visceral fat area significantly correlated with urgency and nocturia score of IPSS and with a total score of OABSS. Regarding objective parameters, visceral fat significantly correlated only with PSA.

Interpretation of results

Visceral fat area significantly correlated with storage symptoms (urgency and nocturia score of IPSS and a total score of OABSS) in subjective parameters, and PSA in objective parameters.

Concluding message

The increase of visceral fat as in cases of MetS is a risk factor of storage symptoms rather than voiding symptoms. Correlation of visceral fat area with PSA but not with PV suggests some complex influence of visceral fat on the prostate biology, leading to the development of LUTS.

References

1. J Urol,174:1327-1333,2005

<i>Specify source of funding or grant</i>	None
<i>Is this a clinical trial?</i>	Yes
<i>Is this study registered in a public clinical trials registry?</i>	No
<i>Is this a Randomised Controlled Trial (RCT)?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	No
<i>This study did not require ethics committee approval because</i>	Retrospective study
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	No