

THE IMPACT OF ABDOMINAL AORTIC CALCIFICATION AND VISCERAL FAT OBESITY ON BLADDER BLOOD FLOW AND LOWER URINARY TRACT SYMPTOMS IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA

Hypothesis / aims of study

Relationship between metabolic syndrome (MetS) and lower urinary tract symptoms (LUTS) has recently attracted considerable attention [1]. We have focused on correlations between bladder blood flow (BBF) and lower urinary tract dysfunction in animal studies [2]. In this study, we examined the impact of abdominal aortic calcification (AAC) and visceral fat obesity on BBF and LUTS in patients with benign prostatic hyperplasia (BPH).

Study design, materials and methods

We studied 24 patients with BPH who had been treated with alpha-adrenergic receptor antagonists prior to transurethral resection of the prostate or combination of Dutasteride. Parameters in this study included International Prostatic Symptom Score (IPSS), quality of life score (QOL), urination parameters as measured by uroflowmetry (maximum urinary flow rate: Qmax), and postvoid residual urine volume (PVR), prostate volume (PV), and urodynamic findings on pressure-flow study. As a surrogate marker of BBF, we measured resistive index (RI) of vesical artery by contrast-enhanced abdominal Doppler ultrasound. AAC score (AACS) and visceral adipose tissue (VAT) area were measured by abdominal CT [3]. $P < 0.05$ was considered statistically significant.

Results

Mean age of the patients was 71.7 ± 7.50 years. Mean IPSS and mean PV were 18.67 ± 7.29 and 57.96 ± 26.42 ml, respectively. The VAT area correlated with urodynamic parameters. A correlation didn't exist between AACS and VAT area.

Interpretation of results

The subjects of this study were limited to BPH patients who were resistant to alpha-adrenergic receptor antagonists, and the results obtained were not compared with those cases with no evidence of BPH or cases that responded well to such antagonists. Therefore, it remains unclear whether arteriosclerosis has a direct effect on BBF and LUTS in patients with BPH. Despite these limitations, our results suggest that visceral fat obesity affect urination parameters in patients with BPH.

Concluding message

It is also suggested that systemic diseases such as Mets as well as systemic vascular factors should be considered in the evaluation and management of BPH/LUTS.

References

1. J Urol. 2009;182:S27-31
2. Urology. 2010;75:235-40
3. Circulation. 2008;117:605-13

<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>	Yes
<i>Specify Name of Ethics Committee</i>	This study approved by the ethics committee of Asahikawa Medical University.
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes