THE DIFFERENCE OF LOWER URINARY TRACT SYMPTOMS BETWEEN SYMPATHETIC HYPERACTIVE AND HYPOACTIVE MEN

Hypothesis / aims of study
Heart rate variability (HRV) is a tool to measure autonomic nervous function(1), however there is no evidence that it is able to define sympathetic hyperactivity in men with LUTS. We suppose that LUTS is different between sympathetic hyperactive and hypoactive patients(2,3). Therefore we measured their HRV, divided LUTS patients into two groups, sympathetic hyperactive group and sympathetic hypoactive group according to the LF/HF ratio, and then compared their clinical situations.

Study design, materials and methods
39 symptomatic LUTS patients (IPSS>8) and 48 healthy volunteers were enrolled. All subjects had no disease which can affect autonomic nervous system, such as diabetes, hypertension and so on. Electrocardiographic signals were obtained from subjects in resting state and calculated the HRV indices with spectral analyses. We divided LUTS patients into two groups by LF/HF ratio 1.19 which was median value in healthy volunteer and compared the difference of clinical characteristics, IPSS, PSA and TRUS results. The parameters were compared by independent sample t-test using SPSS version 12.

Results
There was no difference in age, serum PSA and volume of prostate. The comparative results of parameters of HRV between groups (Mean ± Standard Error) are in the table 1.

Table 1. The results of each HRV parameters in Group A, B and Control (mean±SD)

<table>
<thead>
<tr>
<th></th>
<th>IPSS 1</th>
<th>IPSS 2</th>
<th>IPSS 3</th>
<th>IPSS 4</th>
<th>IPSS 5</th>
<th>IPSS 6</th>
<th>IPSS 7</th>
<th>IPSS QoL</th>
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</thead>
<tbody>
<tr>
<td>Group A (N=18)</td>
<td>2.9 ± 2.0</td>
<td>2.8 ± 1.8</td>
<td>3.0 ± 1.9</td>
<td>2.1 ± 2.1</td>
<td>4.1 ± 1.4</td>
<td>3.2 ± 1.5</td>
<td>2.9 ± 1.2</td>
<td>4.2 ± 1.2</td>
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<tr>
<td>Group B (N=21)</td>
<td>2.2 ± 1.9</td>
<td>2.4 ± 1.7</td>
<td>2.5 ± 1.9</td>
<td>2.1 ± 1.9</td>
<td>3.8 ± 1.3</td>
<td>2.2 ± 1.6</td>
<td>2.1 ± 1.0</td>
<td>3.9 ± 0.8</td>
</tr>
</tbody>
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Interpretation of results
As most investigators believe that LF and HF represent sympathetic and parasympathetic nervous system activity, respectively, our results may suggest that LUTS patients with relatively sympathetic hypoactivity suffer from nocturia more than those with sympathetic hyperactivity.

Concluding message
We suggest that the imbalance of the autonomic nervous system activity may be a factor that evokes varieties of symptoms in men with LUTS.

References

Disclosures
Funding: None Clinical Trial: Yes Public Registry: No RCT: No Subjects: HUMAN Ethics Committee: Ajou University Hospital IRB AJIRB-CRO-07-172 Helsinki: Yes Informed Consent: No