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STUDY OF RELATIONSHIP BETWEEN OVERACTIVE BLADDER (URINARY URGENCY SENSATION) AND URODYNAMIC BLADDER CAPACITY

Hypothesis / aims of study

In contrast, overactive bladder (OAB) is widely used to describe urgency (complaint of a sudden compelling desire to pass urine which is difficult to defer), with or without urge incontinence, usually with frequency and nocturia, with the absence of other lower urinary tract pathology. OAB is common in elderly population and in those with neurologic diseases. However, previously, little has been known concerning relationship between overactive bladder (urinary urgency sensation) and urodynamic first sensation / bladder capacity.

Study design, materials and methods

Patients – We retrospectively analyzed 901 digitized case records between years 1998 to 2000; all of whom had OAB, and had been performed a bladder questionnaire and standard urodynamic tests. They were 541 men, 360 women; mean age, 60.5 +- 14.0 years old.

Methods – We tried to determine cut-off points for the first sensation (FS) and bladder capacity (BC) with/without OAB by receiver operating characteristic (ROC) curve analysis.

Results

Among 901 cases the prevalence of OAB was 68.5% (617 cases). A mean bladder volume at FS was 158.6 ml in patients with OAB and 198.0 ml in those without OAB (not statistically significant). A mean bladder capacity was 355.2 ml in patients with OAB and 458.4 ml in those without OAB ($p < 0.05$). When we determined a BC cut-off value as 400 ml for those with/without OAB, the diagnostic sensitivity (95% confidence intervals) was 68.9%, and the diagnostic specificity was 67.5%.

Interpretation of results

Theoretically OAB is brought about by the presence of detrusor overactivity during slow bladder filling. Detrusor overactivity is usually accompanied by smaller BC. In the present study, OAB is closely related with smaller BC ($p < 0.05$), and a BC cut-off value is assigned as 400 ml when we used the presence of OAB. Since BC is assumed by not only urodynamic study but also bladder diary, measurement of BC can be a promising approach for quantitatively evaluating OAB; and BC 400ml may be the referencing value.

Concluding message

From the results of the present study, measurement of bladder capacity (BC) can be a promising approach for quantitatively evaluating OAB; and BC 400ml may be the referencing value.

<i>Specify source of funding or grant</i>	Urodynamic bladder capacity
<i>Is this a clinical trial?</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>	Chiba Association of Medical Technologists
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes