

SYMPTOMS OF OVERACTIVE BLADDER AND INTERSTITIAL CYSTITIS – HOW DIFFERENT?

Hypothesis / aims of study

Overactive bladder (OAB) is a symptom syndrome of urgency, frequency or urgency incontinence [1]. Interstitial cystitis (IC) is a bladder disease with a symptom syndrome of urgency, frequency, or bladder pain. Difference in symptoms of these confusable disorders is to be examined.

Study design, materials and methods

Female patients with OAB or IC and asymptomatic controls were recruited for the study. Diagnosis of OAB is based on 1) OAB symptom score [2] larger than 5 and/or urgency incontinence, and 2) exclusion of stress urinary incontinence and other obvious diseases. IC was diagnosed by 1) O'Leary & Sant's symptom score [3] larger than 7 and/or bladder pain, 2) exclusion of other obvious diseases, and 3) Hunner's ulcer or bladder bleeding at hydrodistension under anesthesia. The subjects recorded, in 3-day bladder diary, time voided, voided volume and intensity (0: none, 1: slightly, 2: moderately, 3: a lot) of 6 sensations or symptoms (urge to void, fear of leakage, amount of leakage, bladder discomfort, bladder pain and feeling of incomplete emptying) for each micturition. Additionally the urge questionnaire of 5 questions addressing the conditions during the last week was administered: 1) Did you feel urge to void that was not followed by voiding? (Response: yes, no), 2) Did you feel *strong* urge to void? (yes, no), 3) In case of yes in question 2, did you feel strong urge to void *suddenly*? (yes, no), 4) What happened or might happen, if you held strong urge to void for a long time, 1 hour for example? (Response: leak urine, feel discomfort and/or pain, both), 5) In case of discomfort and/or pain in question 4, could you tell these 2 sensations apart? (yes, no). Appropriate statistical methods were used for analysis, with $p < 0.05$ considered to be significant.

Results

A total of 69 subjects were collected (Table 1). Both OAB patients (n=25) and IC patients (n=28) were more symptomatic than controls (n=16) for almost all aspects examined. IC patients voided significantly more frequently with a significantly smaller amount of single voided volume than OAB (Table 1). Average intensity score of recorded symptoms is shown in the Figure. Urge to void was slightly more intense in IC. Fear of leakage and amount of leakage were significantly more intense in OAB, while bladder discomfort, bladder pain and feeling of incomplete emptying were significantly more pronounced in IC. Responses to the urge questionnaire were summarized in Table 2. More than 90% of OAB and IC patients felt strong urge to void, but it tended to occur suddenly more often in OAB (23/25: 92%) compared with IC (18/26: 69%). Of 23 OAB patients reporting strong urge to void, 22 (96%) responded they would "leak urine" when they had to hold strong urge to void, while all IC patients reporting strong urge to void (26/26) responded they would "feel discomfort/pain". All subjects who responded they would "feel discomfort or pain" answered that they could distinguish pain and discomfort.

Interpretation of results

OAB and IC patients had severer storage symptoms than controls. Generally IC patients were more symptomatic; they felt urge to void more intensely and more often. Strong urge to void occurred in almost all OAB and IC patients, but it was more likely to appear suddenly in OAB patients. Most evident difference was noted for end-event of holding strong urge to void; OAB patients felt fear of leaking urine, while IC patients were concerned about discomfort/pain. There was virtually no overlap. These results indicate that most distinctive symptom is fear of leakage and fear of discomfort/pain as the end-event of strong urge to void for OAB and IC, respectively.

Urgency by ICS definition (a sudden compelling desire to pass urine, which is difficult to defer) [1] was not highly specific to OAB symptoms or sensitive to IC symptoms. Urgency may be revised simply as "strong urge to void" by deleting the qualifier "sudden", so that urgency felt by IC patients is classifiable as urgency in ICS terminology, with urgency typically felt by OAB patients described as sudden urgency. Since IC patients are not necessarily painful and they distinguished discomfort from pain, painful bladder syndrome (PBS) is not the best for describing IC symptoms. IC symptoms would be most characterized by early and persistent urge to void (increased sensation by ICS definition [1]) thus may be called as *hypersensitive bladder syndrome* (HSB).

Concluding message

Most distinctive symptom difference between OAB and IC is fear of leakage and fear of discomfort/pain as the end-event of strong urge to void in OAB and IC, respectively. Terminology should be revised to allow more precise and differential description of OAB symptoms and IC symptoms.

Table 1: Patient demographics

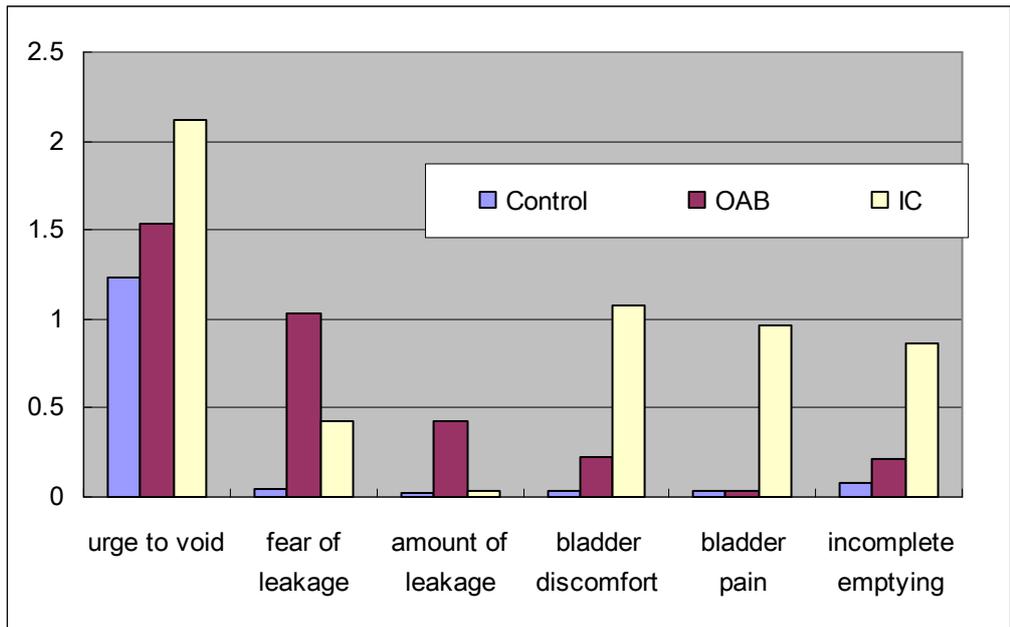
	OAB	IC	Control
No	25	28	16
Average age (years)	58.2	60.1	59.3
1-day frequency (times)	11.3	13.5	7.4
mean voided volume (ml)	163	122	241

Table 2: "Yes" responders in the urge questionnaire (No)

	OAB	IC	Control
No	25	28	16
Urge to void not followed by voiding (%)	5(20%)	19(68%)	3(19%)
Strong urge to void (%)	23(92%)	26(93%)	2(13%)
Sudden onset of strong urge to void	21	18	1
End-event after holding strong urge to void			

leakage	22	4	1
discomfort/pain	1	26	0
discomfort and pain distinguishable	1	26	NA

Figure: Intensity score of bladder diary symptoms/sensations (in average)



References

- 1.Neurourol Urodyn (2002) 21; 167-178.
- 2.Urology (2006) 68; 318-323.
- 3.Urology (1997) 49 (Suppl 5A); 58-63.

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HUMAN SUBJECTS: This study was approved by the IRB of the institution and followed the Declaration of Helsinki Informed consent was obtained from the patients.