

## QUESTIONNAIRE SURVEY ON ASSOCIATION SURVEY ON ASSOCIATION OF IRRITABLE BOWEL SYNDROME WITH OVERACTIVE BLADDER

### Hypothesis / aims of study

Overactive bladder (OAB) and irritable bowel syndrome (IBS) are characterized by overactivity (irritability) of the bladder and the bowel, respectively. OAB and IBS have a significant impact on the quality of life. Previous studies have shown that OAB and IBS occur concurrently in a high frequency. Animal experiments have also shown that hyperesthesia of the bladder is seen in a colitis-induced colon-hyperalgesia model [1] and that colon hyperalgesia is seen in a cyclophosphamide-induced cystitis model (animal OAB model) [2]. In addition, the colon and the bladder are reported to share in part common afferent nerve projections, suggesting the presence of a neural cross-talk between the two organs [3]. This raises the possibility that both OAB and IBS may share the common pathologic features. In the present study, we investigated the concomitant occurrence of OAB and IBS among the Japanese population through questionnaire via the Internet about defecation habits and storage symptoms.

### Study design, materials and methods

Questionnaires were sent via the Internet to men and women aged 20 to 79 years, which were collected from the general population across Japan, during September 14 to 15, 2010. The population was equally divided by sex, age group and region, and we obtained a total of 10,000 valid responses (1,000 each from men and women in their 20s, 30s, 40s, 50s, and 60s and older). The Overactive Bladder Symptom Score (OABSS) [Urology 68,318-23,2006] was used for OAB screening, while the Japanese version of the Rome III Modular Questionnaire (RIIMQ) [J Gastroenterol 41,491-4,2006] for IBS diagnosis was used for IBS screening.

### Results

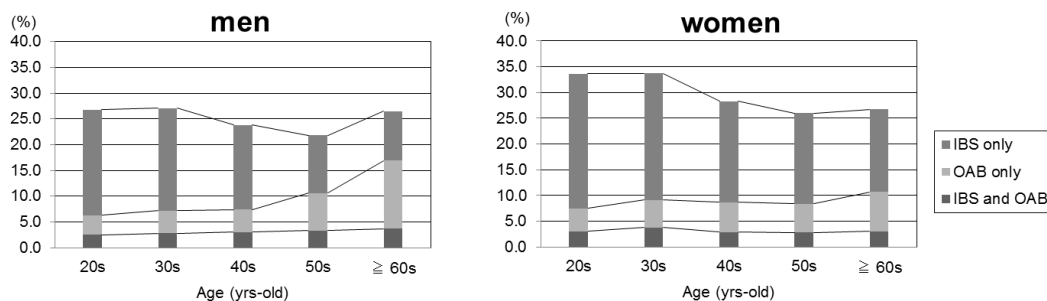
The overall prevalence of OAB was 9.3%, and 33.3% of the OAB patients had concurrent IBS. According to sex, the prevalence of OAB was 9.7% in men and 8.9% in women. IBS was noted in 32.0% of men and 34.8% of women with OAB. Thus, there were few sex differences in the prevalence of the two diseases. According to age group, the prevalence of OAB was 8.1% in subjects of age 40s, and 37.0% of these OAB patients also had IBS; whereas 13.9% of those of age 60s and older had OAB, and 24.5% of these OAB patients had concurrent IBS. According to the severity of OAB, IBS was noted in 33.3% of mild (n = 546), 32.8% of moderate (n = 369), and 38.5% of severe OAB patients (n = 13).

### Interpretation of results

A high proportion (33.3%) of Japanese OAB patients had concurrent IBS. In accordance with previous epidemiological studies, the prevalence of OAB increased with age, while the prevalence of concomitant IBS decreased with age. Severity of OAB was not related with the prevalence of concomitant IBS.

### Concluding message

OAB and IBS are characterized by overactivity (irritability) of the bladder and the bowel, respectively. The present survey revealed that there is substantial overlapping between OAB and IBS, suggesting the etiological linkage between the two diseases. However, because the prevalence of OAB and IBS differs depending on age, underlying etiologies may not be identical. Based on these results, it is extremely important to evaluate defecation habits when diagnosing and treating OAB. The present study only focused on the association of IBS with OAB (storage symptoms). Further detailed studies need to be conducted to examine the relationship between IBS and lower urinary tract symptoms and the impact of concomitant IBS on treatment outcome of OAB.



### References

1. Gastroenterology 129,1967-78,2005
2. Am J Physiol 291, G658-65,2006
3. Neuroreport 15,467-71,2004; Pain 128,235-43,2007

<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>	The study was approved by the Ethical Committee of Asahikawa Medical University.
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes