

DIFFERENTIAL DIAGNOSIS OF FEMALE OVERACTIVE BLADDER

Hypothesis / aims of study

Overactive bladder (OAB) has been defined as a syndrome composing of urgency with or without urge incontinence (UII), usually with frequency and nocturia, and without proven infection or other obvious pathological conditions. Nevertheless, OAB may coexist with variable not-obvious underlying urological pathologies and OAB symptoms may be alleviated after treatment of these underlying disease. The aim of the study is to determine concomitant pathological conditions in women with OAB symptoms.

Study design, materials and methods

We prospectively recruited female patients with OAB symptoms between December 2008 and February 2010. All patients were interviewed for detailed personal and medical history. All patients completed a 3-day frequency-volume chart. Symptom severity was evaluated with International Prostate Symptom Score (IPSS) and Overactive Bladder Symptom Score (OABSS) questionnaires. All patients underwent either conventional pressure-flow urodynamic study or videourodynamic study (VUDS). VUDS was applied if patients had concomitant voiding symptom and low uroflow rate. On the basis of these evaluations, patients were assigned to one of the following categories: idiopathic OAB, stress urinary incontinence (SUI), neurogenic bladder, bladder outlet obstruction (BOO), detrusor hyperreflexia with impaired contractility (DHIC). Neurogenic bladder was defined as OAB symptoms in the presence of a known neurological disorder, including cerebrovascular accident, diabetic neuropathy, myelopathy, Parkinson's disease and multiple sclerosis. BOO was identified as high voiding detrusor pressure with obstruction over either bladder neck or urethra as demonstrated by VUDS. Impaired detrusor contractility was defined as with low uroflow rate and detrusor pressure at maximum flow less than 10 cmH₂O. Idiopathic OAB was defined as urgency in the absence of the mentioned diagnoses.

Results

A total of 108 female patients were recruited into the study. The mean age of the patients was 63.75 ± 14.02 years (range: 23-89). Detrusor overactivity was demonstrated in 55 patients (51 %). Table 1 and table 2 list the results of frequency-volume chart and evaluation of symptom severity. The differential diagnosis and associated conditions are depicted in the table 3. The diagnoses add up to more than 100 % because some patients had more than one diagnosis. Most of the women with mixed urinary incontinence complained of urge component as the dominant symptom except for six patients, who were bothered equally by urgency incontinence and stress urinary incontinence. 7 patients had BOO due to dysfunctional voiding (n=6) or functional bladder neck obstruction (n=1) as demonstrated by videourodynamic study.

Interpretation of results

About a half of the female patients with OAB symptoms were idiopathic. It is worthwhile to note that about 10 % of women who suffered from OAB symptoms had BOO or DHIC. In these patients, therapy with antimuscarinic agents alone may not give satisfactory therapeutic effects.

Concluding message

Our study suggests that a half of women with OAB symptoms have additional concomitant urological diagnoses. Among them, SUI is the most common. Moreover, OAB symptoms in women might relate to BOO or DHIC. Detailed history taking and sophisticated urodynamic studies are required for a substantial group of female patients with OAB symptoms to make correct diagnosis and give optimal therapy.

TABLE 1. Frequency volume chart results

	Mean
24 hour frequency	11.38
24 hour production (ml)	1703.3
Maximum voided volume (ml)	358.82
Minimum voided volume (ml)	47.68
Nocturia (episodes/night)	1.77
Urge urinary incontinence (episodes/day)	1.74
Urgency (episodes/day)	2.55
Nocturnal urine ratio (%)	30.95
First morning void (ml)	186.6

TABLE 2. Symptom severity

	Median score
IPSS	
Frequency	5
Urgency	5
Nocturia	2.5
OABSS	
Total score	10
Frequency	1
Urgency	4
Nocturia	2
Urge incontinence	4
IPSS = International Prostate Symptom Score ; OABSS = Overactive Bladder Symptom Score.	

TABLE 3. OAB differential diagnoses

Differential Diagnosis	No. Pts (%)
Neurogenic bladder	12 (11.1)
SUI	46 (42.6)
BOO	7 (6.5)
DHIC	3 (2.8)
Idiopathic OAB	51 (47.2)
Total	119 (110.2)
OAB = overactive bladder ; SUI = stress urinary incontinence ; BOO = bladder outlet obstruction ; DHIC = detrusor hyperreflexia with impaired contractility.	

Specify source of funding or grant	none
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Institutional Review Board, Taipei Veterans General Hospital
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes