How frequent are overactive bladder symptoms in women with urodynamic verification of an overactive bladder?

Ürodinami ile aşırı aktif mesane tanısı konmuş kadınlarda aşırı aktif mesane semptomları hangi sıklıkta bulunmaktadır?

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Abstract

Objective: To determine the relationship between overactive bladder symptoms and urodynamic verification of overactive bladder.

Material and Methods: Between June 2011 and November 2011, 159 patients underwent urodynamics (UDS) at our urogynecology unit in the Ege University Hospital. Of these, 95 patients who complained of urgency, did not have any overt neurological diseases, bladder outlet obstruction and did not take any medication affecting the lower urinary tract function were evaluated. SPSS (ver. 15.0) was used to evaluate the data and the chi-square test and t test for independent samples were used for analysis.

Results: The mean age was found to be 54.5±12. Frequency was the most frequent symptom in women with overactive bladder (OAB) (82.1%), nocturia (57.8%) and (57.8%) urgency urinary incontinence followed in frequency. Detrusor over activity incidence was found to be 38.9%. There was no significant relationship between the presence of detrusor over activity (DOA) and OAB symptoms. Leak at urodynamics was found in 46.3% and there is no significant association with detrusor overactivity. Total bladder capacity was found to be significantly lower in women who had DOA (p=0.000).

Conclusion: It appears that overactive bladder symptoms do not predict detrusor over activity. Urodynamic investigation is not mandatory in the initial management of women with only OAB symptoms.

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Key words: Overactive bladder, urodyamics, urgency urinary incontinence, detrussor over activity

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Özet

Amaç: Aşırı aktif mesane semptomları ile tanısı ürodinamik olarak doğrulanmış aşırı aktif mesane arasındaki ilişkinin belirlenmesi.

Gereç ve Yöntemler: Ege Üniversitesi Ürojinekoloji ünitesinde, Haziran 2011 ve Kasım 2011 tarihleri arasında ürodinami ile değerlendirilen 159 hasta sunulan çalışmaya dahil edilmiştir. Bu olguların 95'inde urgency yakınması bulunuyordu ve bu olgular da belirgin nörolojik hastalık, mesane çıkış obstrüksiyonu yada alt üriner sistemi etkileyebilecek ilaç kullanım öyküsü yoktu. İstatistiksel analizlerde ki-kare ve t-test SPSS (ver 15.0) ile kullanıldı.

Bulgular: Olguların ortalama yaşı 54.5±12 bulundu. Aşırı aktif mesaneli kadınlarda idrara sık çıkma şikayeti (%82.1) en sık saptanan yakınma iken noktüri (%57.8) ve urgency üriner inkontinans (%57.8) bunu takip eden yakınmalardır. Detrüsör aşırı aktivitesi (DAA) %38.9 bulundu. Detrusor aşırı aktivitesi (DAA) ile aşırı aktif mesane (AAM) arasında anlamlı ilişki bulunmadı. Ürodinamik inkontinans %46.3 bulundu ve DAA ile anlamlı ilişki saptanmadı. Total mesane kapasitesi DAA'lı olgularda anlamlı olarak daha düşük saptandı (p=0.000).

Sonuç: Aşırı aktif mesane semptomlarının detrusor aşırı aktivitesini öngörmüyor gibi gözükmektedir. Ürodinamik inceleme yanlızca aşırı aktif mesane semptomu olan kadınların başlangıç değerlendirmesinde gerekli değildir. (J Turkish-German Gynecol Assoc 2012; 13: 98-101)

Anahtar kelimeler: Aşırı aktif mesane, ürodinamik değerlendirme, urgency, üriner inkontinans, detrosor aşırı aktivitesi

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Introduction

Overactive bladder (OAB) is defined as the storage symptoms of urgency with or without urgency incontinence, usually with frequency and nocturia. Urgency Urinary Incontinence (UUI) is defined as the complaint of involuntary leakage accompanied by or immediately preceded by urgency. Urodynamic diagnosis of OAB is defined as involuntary detrusor contractions during the filling phase, which may be spontaneous or provoked (1).These involuntary contractions are termed detrusor over activity (DOA) and are mediated by acetylcholine-induced stimulation of bladder muscarinic receptors (2). It has been reported that the rate of DOA in women who have OAB symptoms is 22-58.4% (3-5). Some studies reported that there is a significant relationship between DOA and frequency, nocturia and urgency urinary incontinence (5, 6). However, the association between the symptoms of OAB and DOA are still unclear in women with OAB. There is no consensus about symptomatic diagnosis of OAB and DOA in women (3, 4, 7, 8). The aim of this study was to evaluate the relationship between OAB symptoms and an urodynamic diagnosis of detrusor over activity.

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Material and Method

Sample Population

Between June 2011 and November 2011, 159 patients underwent UDS at our urogynecology clinic in the Ege University Hospital. Of these, 95 patients who complained of urgency did not have any overt neurological, bladder outlet obstruction and did not take any medication affecting the lower urinary tract function were evaluated. We retrospectively scanned urogynecologic evaluation reports which have included urinary diary, patient socio-demographic characteristics, and urodynamics. The study obtained approval from the local ethics committees.

Urogynecologic evaluation

The routine urogynecological protocol was performed before urodynamic testing. This included a comprehensive urogynecologic history, pelvic examination, a 3-day urinary diary, and no urinary infection.

Urogynecologic history

It was included in the data on socio-demographic characteristics such as age, weight, height, smoking, parity, gravida, menopausal status, previous medication or surgery. Body mass index was calculated by weight (kg)/height (m^2). Obesity was defined as 30 or more BMI value.

Pelvic examination

It consists of a cough stress test, residual volume measuring, Q-tip test, and POP-Q staging (9, 10).

Urinary diary

Frequency (eight voids per day), nocturia (two voids per night), and symptomatic incontinence (OAB wet; at least once a day or OAB dry, respectively) were determined.

Urodynamics

Urodynamics were performed in accordance with the criteria established by the International Continence Society (ICS) (11). The presence or absence of DOA and leakage during UDS were determined.

Statistical Analysis

SPSS vers 15.0 was used for evaluation of the data. Continuous variables were presented as means±SD and analyzed via the t test for independent samples. Classified variables were presented as n-% tables and compared via the Yates corrected Chi-square test. $p<0.05$ was considered as significant.

Result

Table 1 shows the demographic characteristics of women who were included in the present study. One hundred fifty

Table 1. Participants' demographic characteristics

	All participants (n=95)		Detrusor Over Activity				*p
			Absent (n=58)		Present (n=37)		
	Mean	SD	Mean	SD	Mean	SD	
Age	54.5	12.1	53.3	11.98	56.5	12.2	NS
Parity	3.1	1.7	2.9	1.65	3.5	1.6	NS
Gravida	4.3	2.2	4.0	2.19	4.7	2.3	NS
BMI	29.2	4.3	29.0	4.52	29.7	3.9	NS
	n	%	n	%	n	%	**p
Menopause							NS
yes	33	34.7	38	61.3	24	38.7	
no	62	65.3	20	60.6	13	39.4	
Prolapse							NS
yes	25	26.3	28	75.7	9	24.3	
no	70	73.7	42	72.4	16	27.6	
Obesity							NS
yes	37	38.9	21	56.8	16	43.2	
no	58	61.1	37	63.8	21	36.2	
Smoking							NS
yes	21	22.1	15	71.4	6	28.6	
no	74	77.9	43	58.1	31	41.9	

NS: Non significant, BMI: Body mass index *t test for independent samples, ** X^2 Yates

nine women who had attended our urogynecology unit were evaluated. 95 of these women (59.7%) had urgency. These participants were described as an overactive bladder. In addition frequency, nocturia, urgency incontinence might be accompanying the urgency. DOA was found to be present in 38.9%. There is no significant relationship between the presence of DOA and OAB symptoms. Table 2 shows the relationship between OAB symptoms and DOA. Table 3 shows the urodynamics findings. Leak at urodynamics was found in 46.3%. Total bladder capacity was found significantly lower in women who had DOA.

Discussion

Epidemiological studies have reported the prevalence of OAB as 16-17%, and this percentage increased to 21% for women older than 70 years (12, 13).

Symptoms of urinary frequency, nocturia, and urgency are common among adult women. Frequency, urgency, and urge incontinence alone or in combination form the basic group of symptoms of OAB (14, 15). OAB is a common and distressing problem known to adversely affect the quality of life because of these symptoms (16).

Our study demonstrates that OAB symptoms do not overlap urodynamic verification of OAB. In the present study, total bladder capacity was found significantly lower in women with DOA as in a previous study (7). Although DOA was reported as a main factor for OAB, it appears different underlying pathophysiologic factors play a role in women with OAB. Urgency is a pivot symptom, according to the OAB definition (1). Some studies reported a significant association between urgency and DOA (6-17).

However, Brummen et al. (5) reported a main association between frequency and DOA, while urgency was associated poorly with DOA. Hashim and Abrahams reported that urgency coexisting with urgency incontinence and frequency is a better predictor than frequency alone for DOA. On the other hand, 10 or more daytime micturition episodes in women with OAB was found to be associated with DOA (4, 8). According to studies which reported an association between OAB symptoms and DOA, urodynamic evaluation might be a part of the assessment in the management of women who had OAB symptoms. However, there is controversy about the association between OAB symptoms and urodynamic verification of DOA. Digesu et al. reported that there is no significant correlation between OAB symptoms and DOA. On the other hand, they detected that 72.4% women who had DOA did not have OAB symptoms and 20.8% of women with OAB symptoms had an urodynamic diagnosis of genuine stress incontinence (3). In conclusion, it appears that overactive bladder symptoms do not predict detrusor over activity. Although there is no sufficient medical data based on urodynamic investigations in women with OAB, in the light of available data we suggested that urodynamic investigation is not mandatory in the initial management of women with only OAB symptoms.

Table 2. The relationship between OAB symptoms and DOA

	Detrusor Over Activity				***p**
	Absent		**Present**		
	n	**%**	**n**	**%**	
Frequency	51	87.9	29	78.4	NS
Nocturia	33	56.9	22	59.5	NS
Urge incontinence	32	55.2	23	62.2	NS
Frequency+Nocturia	31	56.3	20	54	NS
Frequency+Urge incontinence	30	51.7	19	51.4	NS
Nocturia+Urge incontinence	18	31	12	32.4	NS
Frequency+Nocturia+Urge incontinence	18	31	12	32.4	NS
NS: Non significant *X^2 Yates					

Table 3. Urodynamics findings

	Detrusor Over Activity				***p**
	Absent		**Present**		
	Mean	**SD**	**Mean**	**SD**	
FD	161.12	62.76	147.89	84.45	NS
TBC	449.55	138.56	348.49	119.88	0.000
	n	**%**	**n**	**%**	****p**
Leak at UDS	25	43.1	19	51.4	NS
FD: First desire, NS: Non significant *t test for independent samples, **X^2 Yates; Bold indicates significant difference, TBC: Total bladder capacity, UDS: Urodynamics					

Conflict of interest

No conflict of interest was declared by the authors.

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