

THE RELATION BETWEEN OBESITY AND OVERACTIVE BLADDER SYMPTOM BOTHER ASSESSED BY OAB-V8

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Hypothesis / aims of study

Overactive bladder (OAB) is a common distressing symptom complex significantly impairing quality of life. Obesity, an increasing major health concern, has emerged as a risk factor for pelvic floor disorders (PFD). Epidemiologic studies have described the associations between obesity and prevalence of PFD, particularly urinary and fecal incontinence¹; however, data on the associated bother especially for OAB are relatively sparse². The aim of this study was to assess the relation between obesity and overactive bladder symptom bother in a clinical setting.

Study design, materials and methods

Patients attending the Department of Urogynecology of a tertiary center with complaints of lower urinary tract symptoms were enrolled in the study. The medical records of the patients were evaluated retrospectively; symptoms, detailed medical/surgical histories, urogynecologic examinations and questionnaires were analyzed. The urogynecologic examination included 3 day voiding diary, Q-tip test, cough stress test, postvoid residual urine volume assessed by catheterization immediately after micturition and pelvic organ prolapse (POP) assessed by the POP quantification (POP-Q) system. The patient population was divided into two groups; nonobese (Body mass index, BMI < 30 kg/m²) and obese (BMI ≥ 30 kg/m²). The main outcome measure was overactive bladder symptom bother, assessed by the total score of the Overactive Bladder-Validated 8 Question Awareness Tool (OAB-V8).

Statistical analysis was performed using the software SPSS (version 13, Chicago, IL, USA). The Student's t test, the Mann-Whitney U test and chi-square tests were used as appropriate. P values < 0.05 were considered significant.

Results

Of the 123 patients included, 50.4 % (62/123) had a BMI < 30 kg/m² and 49.6 % (61/123) had a BMI ≥ 30 kg/m². The group sample sizes achieved 85 % power to detect a 15 % difference between obese and nonobese patients, with an alpha of .05. The mean BMI of the nonobese group was 25.2 (±3.4) kg/m² and the mean BMI of the obese group was 32.3 (±2.23) kg/m² (p<0.001). Women in the nonobese group were younger compared to women in the obese group. Diabetes and asthma were observed more frequently in the obese group compared to the nonobese group. Frequency of incontinence episodes in the urinary diaries, the Q-tip test, stress test, mean postvoid residual volume and stage ≥ 1 and stage ≥ 2 pelvic organ prolapse were statistically similar in both groups (Table 1). As the main outcome, no difference was observed in the mean total scores of OAB-V8 between obese and nonobese women (27.5±7.9 vs 23.4±6.8, p=0.614) (Table 2).

Interpretation of results

Most of the epidemiologic studies have reported an association with obesity and OAB. We were not able to show this association in this hospital based study. Although diabetes and asthma were found to be more frequent in the group of obese patients, the associated bother from overactive bladder symptoms assessed by the validated and specific OAB V8 showed no statistically significant difference between the two groups. This inconsistency is mainly due to discrepancies in the methodologies of studies. We have evaluated clinical parameters, most importantly POP, with objective measures because POP is one important confounding factor that may lead to OAB. Both community and hospital based studies have shown that the prevalence of OAB symptoms was greater in patients with POP than without POP³. However, in prevalence studies evaluating the association between obesity and PFD, data regarding POP is either lacking or is insufficient as they were based mainly on self reports. Thus, the presence of POP might have influenced their results.

Concluding message

Obesity does not seem to be associated with OAB symptom bother. Well designed prospective studies are required to assess a causal relationship between obesity and OAB.

Table 1. Demographics and clinical characteristics of patients

Characteristic	Obese (n =61)	Nonobese (n = 62)	P
Mean BMI, kg/m ² (SD)	32,3±2,23	25,2±3,4	<0,001*
Mean age,y (SD)	54,8±7,3	46,1±9	0,042*
Vaginal delivery, n (%)	55 (90.16)	58 (93.54)	0,49
Mean vaginal parity (SD)	3,6±2,8	2,9±1,06	0,21
Mean birth weight, g (SD)	3007±510	3228±513	0,707
Menopausal status, n (%)	29 (47.54)	24 (38.70)	0,32
Prior pelvic surgery, n (%)	8 (13.11)	10 (16.12)	0,63
Diabetes, n (%)	17 (27.86)	4 (6.45)	0,002*
Hypertension, n(%)	20 (32.78)	16 (25.80)	0,39
Asthma, n (%)	10 (16.39)	3 (4.83)	0,037*
Cigarette smoking, n (%)	13 (21.31)	11 (17.74)	0,61
Frequency of incontinence	5,1±2,6	2,42±2,4	0,065

episodes, n (SD)			
Stage \geq 1 POP, n (%)	42 (68.85)	44 (70.96)	0,79
Stage \geq 2 POP, n (%)	31 (50.81)	21 (33.87)	0,057
Q tip test, n (%)	31 (50.81)	27 (43.54)	0,41
Stress test, n (%)	25 (40.98)	21 (33.87)	0,43
Mean postvoid residual urine, ml (SD)	30,6 \pm 18,2	27,8 \pm 23,5	0,316

BMI: Body mass index; POP: Pelvic organ prolapse

Table 2. OAB symptom score assessment

Variable	Obese (n =61)	Nonobese (n = 62)	P
Mean OAB-V8 (SD)	27,5 \pm 7,9	23,4 \pm 6,8	0,614

OAB-V8: Overactive Bladder-Validated 8 Question Awareness Tool

References

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<i>Is this a clinical trial?</i>	Yes
<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>	Institutional Review Board (Ankara University Medical Faculty)
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes