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THE INFLUENCE OF OBESITY ON THE PATIENTS WITH STRESS URINARY INCONTINENCE: ASPECT OF CLINICAL CHARACTERISTICS, QUALITY OF LIFE AND SURGICAL OUTCOMES

Hypothesis / aims of study

Obesity has been known as an important risk factor of stress urinary incontinence (SUI). However, all SUI patients are not associated with overweight. The purpose of our study was to evaluate the influence of obesity on the clinical characteristics, quality of life (QoL) and outcomes in the stress urinary incontinence patients who underwent the transobturator tape (TOT) surgery.

Study design, materials and methods

The items of preoperative evaluations consisted of history taking, physical examination, cystometrography, 3 day frequency-volume chart, King's health questionnaire (KHQ) and symptoms questionnaire. Patients with any neurologic diseases that affect the voiding pattern were excluded. Between January 2007 to June 2009, 107 patients with TOT operation were enrolled, and were reevaluated with physical examination, 3 day frequency-volume chart and symptom questionnaires, postoperatively. The patients were divided into non-obese (BMI<25) and obese group (body mass index, BMI≥25).

Results

Non-obese group was 55 (51.4%) patients and obese group was 52 (48.6%) (Table 1). The median age was 49.0 (30.8-73.5) years in obese group and 52.7 (35.5-73.5) ($p>0.05$). Obese group showed the higher SUI symptom grade, urethral hypermobility, urgency and urge incontinence scale than non-obese group (each $p<0.05$). No differences in each domains of KHQ were observed between two groups. On 3 day frequency-volume chart, obese group had tend to void more frequently per day than non-obese group (8.33±2.02 and 7.47±2.30, respectively, $p=0.07$), but nocturia and functional bladder capacity did not show the difference between two groups (Table 2). After operation, the numbers of 24-hour frequency, nocturia and functional bladder capacity of obese group showed similar to those of non-obese group, and the objective success rates were the same in two groups (each $p>0.05$).

Table 1. Comparison of clinical characteristics and parameters in relation to body mass index

	BMI<25 (%)	BMI≥25 (%)	p-value
No. of patients	55	52	
Median age at operation (range)	49.0 (30.8-73.5)	52.7 (35.5-73.5)	0.156*
Symptom duration (year)	6.4±7.7	5.0±4.4	0.446*
SUI symptom grade			0.007†
I	49 (89.1)	34 (65.4)	
II	5 (9.1)	16 (30.8)	
III	1 (1.8)	2 (3.8)	
Incontinence type			0.066†
Pure	25 (45.5)	16 (30.8)	
Stress dominant	30 (54.5)	34 (65.4)	
Urge dominant	0 (0)	2 (3.8)	
Pad apply	35 (63.6)	30 (57.7)	0.558‡
No. of vaginal delivery	2.3±0.9	2.6±1.2	0.087*
Previous pelvic surgery	15 (27.3)	10 (19.2)	0.367‡
Postmenopause	22 (40.0)	30 (57.7)	0.083‡
Q-tip test≥30°	21 (38.2)	31 (59.6)	0.034‡
VLPP<60cmH_2O	13 (23.6)	8 (15.4)	0.335‡
Detrusor overactivity	8 (14.5)	10 (19.2)	0.609‡
Frequency scale			0.217‡
0 & 1	20 (36.4)	13 (25.0)	
2 & 3	35 (63.6)	39 (75.0)	
Urgency scale			0.043‡
0 & 1	25 (45.5)	13 (25.0)	
2 & 3	30 (54.5)	39 (75.0)	
Urge incontinence scale			0.003‡
0 & 1	33 (60.0)	16 (30.8)	
2 & 3	22 (40.0)	36 (69.2)	
Objective success rate			0.722†
Cured	49 (89.1)	48 (92.3)	
Improved	4 (7.3)	2 (3.8)	
Failed	2 (3.6)	2 (3.8)	

*: Mann-Whitney U-test, †: Linear-by-linear association, ‡: Fisher's exact test

Table 2. Comparison of preoperative and postoperative parameters in non-obese and obese patients

Parameters	BMI<25	BMI≥25	p-value *
Preoperatively			
No. of 24-hour frequency	8.98±2.78	9.93±2.46	0.072
No. of nocturia	1.41±0.99	1.55±0.87	0.856
Functional bladder capacity (cc)	346.17±144.01	331.96±83.09	0.436
Postoperatively			
No. of 24-hour frequency	7.51±2.25	7.21±1.86	0.483
No. of nocturia	1.07±0.75	0.91±0.70	0.319
Functional bladder capacity (cc)	338.06±82.49	386.79±86.67	0.188

*: Mann-Whitney U-test

Interpretation of results

Obese SUI patients had worse SUI grade, urgency and urge incontinence symptoms than non-obese patients. However, surgical correction could restore the symptoms and voiding parameters as effective as non-obese patients.

Concluding message

Obesity could influence the symptoms and voiding patterns in the patients with stress urinary incontinence, but not influence the surgical outcomes.

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**this study was retrospective study.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**