



Full length article

5-year experience in the diagnosis and treatment of occult urinary incontinence in women with pelvic organ prolapse



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ABSTRACT

Objective: Our aim was to analyze our five-year experience in the diagnosis and treatment of occult urinary incontinence in women with pelvic organ prolapse.

Study design: The medical records of all patients who were admitted to the Division of Urogynecology of Istanbul Faculty of Medicine between January 2008 and December 2013; in total, 1600 patients were retrospectively evaluated. The study population included 287 patients who had prolapse beyond the hymen and underwent two consecutive urodynamic studies with and without prolapse reduction. Demographic data, medical records, physical examination, full urogynecologic examination, urodynamic investigations, treatment modality, the results of the treatment and King's Health Questionnaire scores before treatment and at one-year follow-up were recorded.

Results: Eighty-five of 287 patients (29.6%) were continent, 20 (23.5%) of whom had occult stress urinary incontinence during cystometry. Among these 20 patients, 17 underwent anti-incontinence surgery; 12 were satisfied with their surgery and had no postoperative urinary leakage. Twenty (23.5%) patients had overactive bladder symptoms during urodynamic studies after prolapse reduction. King's Health Questionnaire scores before and after the operation, showed that health status of 12 patients was better, 1 patient was unsatisfied after the treatment, 2 patients' scores did not change and 2 patients were lost to follow up.

Conclusions: In conclusion, the prevalence of occult urinary incontinence was 23.5% when using urodynamics with prolapse reduction. 12 of the 17 patients diagnosed with occult urinary incontinence were satisfied with surgery and had no postoperative urinary leakage.

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Introduction

Pelvic organ prolapse (POP) and urinary incontinence are common disease processes in aging women. During their lifetime, 11% of women will undergo at least one operation for pelvic organ prolapse, urinary incontinence, or both [1]. Studies have noted that approximately 40% of women with pelvic organ prolapse report stress urinary incontinence (SUI) symptoms [2]. On the other hand, continent patients with severe genitourinary prolapse may also become incontinent after the prolapse is reduced, which is called occult urinary incontinence (OUI). The mechanism is a mechanical obstruction of the urethra caused by physical kinking. OUI is clinically diagnosed when a continent woman with POP displays stress urinary leakage during provocation testing mimicking POP

repair. Studies demonstrated that a reduction of the prolapse during urodynamic evaluation revealed occult SUI in 36–80% of continent women with severe POP [3–5]. Preoperative identification of occult SUI may facilitate the use of a prophylactic anti-incontinence surgery during prolapse repair to prevent the development of postoperative symptomatic SUI. However, any anti-incontinence procedure comes with a cost and has potential risks, therefore managing occult SUI remains controversial. Additionally, the association between occult SUI and the risk of developing postoperative incontinence is not yet fully understood. Many surgeons perform an anti-incontinence procedures during prolapse surgery in women in whom occult SUI has been demonstrated. Some others prefer a two-step approach; they do not perform anti-incontinence surgery during primary surgery and plan a second surgery if the patient becomes incontinent. There is no consensus amongst gynecologists on this issue.

The aim of this study was to share our five-year experience in the diagnosis and treatment of occult urinary incontinence in women with pelvic organ prolapse.

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Table 1

Uroflowmetry test results before and after reduction of the prolapsed organs. Qmax: maximum flow. PVR: post-void residual volume. Data are shown as mean \pm standard deviation (minimum–maximum).

	Before	After
Qmax	24.04 \pm 13.14 (0–67)	23.45 \pm 10.53 (0–84)
Voiding Time	29.75 \pm 14.5 (0–84)	31.48 \pm 20.04 (0–201)
Voiding Volume	278.43 \pm 170.26 (0–1240)	269.2 \pm 98.22 (0–675)
PVR	57 \pm 82.14 (0–650)	26.06 \pm 51.91 (0–350)

Materials and methods

The medical records of all patients who were admitted to the Division of Urogynecology of Istanbul Faculty of Medicine between January 2008 and December 2013; in total, 1600 patients were retrospectively evaluated. Two hundred eighty-seven patients who had prolapse of any compartment beyond the hymen and underwent two consecutive urodynamic testing before and after reduction of the prolapsed organs were included in the study. Patients with prolapse above the hymen were excluded. Patients who had prolapsed beyond the hymen but did not have two consecutive urodynamic tests were also excluded. We recorded the patients' demographic data, medical records, physical examination, full urogynecologic examination, urodynamic investigations, treatment modality, treatment results, and King's Health Questionnaire (KHQ) scores before and 1 year after treatment. Diagnosis of occult SUI was established based on multichannel cystometry. Urodynamic evaluation included uroflowmetry and multichannel cystometry at a filling rate of 50 mL/min, which was performed using an MMS UD 2000 Urodynamics System (MMS UD-2000; Medical Measurement System, Enschede, The Netherlands). The patients were asked to perform both the Valsalva maneuver and cough at regular intervals (every 100 mL infused). All patients had a negative urine culture at the time of the evaluation. Urodynamic testing was performed after reduction of the POP using a pessary. Prolapsed organs were reduced back to their original position as much as possible, while avoiding any compression to the urethra, in order to unmask occult SUI. Care was taken to prevent urethral occlusion during repositioning.

Statistical evaluation was performed using the Statistics Package for the Social Sciences (SPSS) version 21.0 (IBM Corp, 2012). Data are expressed as mean \pm standard deviation

(minimum, maximum). $P=0.05$ was accepted as the degree of significance.

Results

The mean age of the 287 patients was 56.4 \pm 11.7 years (range, 30–87 years). The mean number of deliveries was 3.5 \pm 1.92 (range, 0–12). Two hundred fifty-eight patients had only vaginal delivery, 1 patient had only cesarean section, 13 patients had both, 10 patients had instrumental deliveries. Two hundred eleven patients were postmenopausal (73.8%). Fourteen patients were diabetic (4.9%), 78 (27.3%) patients were hypertensive, 18 (6.3%) patients had asthma, 33 (11.5%) patients had diabetes and hypertension, 5 (1.7%) patients had hypertension and asthma, 4 (1.4%) patients had asthma and diabetes, and one (0.3%) patient had all 3 diseases.

Forty-eight patients had undergone surgery previously; the operations performed were abdominal hysterectomy for 20 patients, vaginal hysterectomy for 6 patients, anterior colporrhaphy for 7 patients, abdominal hysterectomy and anterior colporrhaphy for 6 patients, vaginal hysterectomy and colporrhaphy anterior and posterior for 4 patients, sacrocolpopexy for 2 patients, Kelly plication for 1 patient, sacrohysteropexy for 1 patient, and abdominal hysterectomy and Burch colposuspension for 1 patient.

On physical examination, the stress test was positive in 54 (18%) patients. According to the pelvic organ prolapse quantification (POP-Q) system, 36 patients had stage II, 227 patients stage III, and 24 patients stage IV pelvic organ prolapse. The mean intravaginal pressure with appropriate pelvic musculature contracted was 17.6 \pm 11.2 (range, 0–69) cm H₂O. Uroflowmetry test results before and after prolapse reduction are summarized in Table 1.

Two hundred two (70.4%) patients were incontinent; 23 patients had SUI, 61 patients had urge urinary incontinence, and 118 patients had mixed urinary incontinence. Eighty-five patients were continent, 20 of whom were found to have occult SUI. Therefore, the prevalence of occult SUI was found as 23.5% in this group. The mean abdominal leak point pressure was 90.8 \pm 36.9 (range, 9–150) cm H₂O. Twenty patients had no detrusor overactivity in the initial cystometry, but experienced detrusor overactivity when the prolapse was reduced.

Table 2 shows the treatment modality, complications, and KHQ scores before and after the treatment of the patients with occult SUI. The treatment modality, the complications, KHQ scores before

Table 2

The treatment modality, complications, King's Health Questionnaire scores before and after treatment of patients with occult stress urinary incontinence. Vag. hyst.: Vaginal hysterectomy. Colporrhaphy ant./post.: Colporrhaphy anterior and posterior. TOT: transobturator tape.

The treatment modality and outcomes of patients with occult stress urinary incontinence				
n	Treatment modality	Preop. King	Postop. King	Complication
1	Vag. hyst. +TOT + colporrhaphy ant./post.	260	0	–
2		215	25	–
3		31.66	41.66	–
4		718.86	83.33	–
5		494.43	0	–
6		627.76	–	Difficulty in urinating
7		841.66	202.77	De novo urge UI
8		273.87	222.75	Leg pain
9		313.87	130.55	De novo urge UI
10		48.33	16.66	–
11	Vag. hyst. + colporrhaphy ant./post.	31.66	0	–
12		438.33	25	–
13		658	410	Bladder injury
14	Vag. hyst. +TOT + colpcleisis + perineorrhaphy	25	25	–
15		683.32	25	–
16	TOT + colporrhaphy ant./post.	186.66	–	–
17	TOT	122.77	433.33	De novo urge UI
18	Conservative treatment modalities	755.55	–	–
19		480.53	–	–
20		360.56	175	–

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