Ann Med Res 2020;27(8):2094-8

Annals of Medical Research

DOI: 10.5455/annalsmedres.2020.04.300

Original Article

Comparison of treatment results of urinary incontinence verified/or not verified with urodinamic evaluation by using UDI-6, IIQ-7 questionnaire forms

Erhan Okuyan[1], Caner Cakir[2], Emre Gunakan[3], Enis Ozkaya[4], Tuncay Kucukozkan[5], Eser Sefik Ozyurek[6]

[1]Department of Obstetrics and Gynecology, Batman Maternity and Child Health Hospital, Batman, Turkey
[2]Department of Gynecologic Oncology Surgery, Etlik Women Health Education and Research Hospital, Ankara, Turkey
[3]Department of Perinatology, BaskentUniversity School of Medicine, Ankara, Turkey
[4]Department of IVF, Zeynep Kamil Education and Research Hospital, Istanbul, Turkey
[5]Department of Gynecologic Oncology Surgery, DR. Sami Ulus Maternity and Child Health Education and Research Hospital, Ankara, Turkey
[6]Department of Gynecologic Oncology Surgery Zeynep Kamil Education and Research Hospital, Istanbul, Turkey

Abstract

Aim: Treatment of mixed type incontinence includes surgical and/or medical options. The efficacy of treatment frequently depends on the patient based choice. Thus, we aimed to compare treatment efficacy with UDI-6 and IIQ-7 questionnaire forms in groups with/without urodynamics in the diagnosis of mixed type incontinence.

Material and Methods: In our study, 60 patients were registered. Patients were evaluated in 2 groups including 30 patients that: agreed (Group 1) to and did not agree (Group 2) for a urodynamic exam. "Quality of life" scoring questionnaires, urodynamics records, and urethral angle measurements were performed in both groups. Patients in the groups were evaluated in subgroups whether they received TOT (Transobturator tape) and/or medical treatment. Group 1; A: TOT patients, B: TOT + medical treatment, C: Only medical treatment; Group 2; D: TOT + medical treatment, E: Only medical treatment.

Results: The mean age of the patients was 49 and 70% of patients were postmenopausal. Most of the patients were obese 45% of patients had had a BMI of >40kg/m2. The rate of TOT received the patients in Group 1 and 2 were 21 (70%) and 13 (43.3%), respectively. An analysis of questionnaire scores %94.4 of all patients stated a regression in symptoms after treatment. Both surveys showed positive changes in all groups. The change ratio in the survey scores was 81.1% and 67.3% in Group 1 and 2 respectively in UDI- 6 survey similarly with IIQ-7 survey results as 81.1% and 63.5 % in Group 1 and 2 respectively. In the comparison of medical treatment subgroups (C and E) the change rate was significantly lower in patients who did not agree with urodynamic in UDI 6 and IIQ7 surveys (86.4% vs 55.0%, p<.001 and 79.7% vs. 50.5%, p<0.001.

Conclusion: Although it is limited in urge type dominant incontinence patients, non-complex UI patients benefit from appropriate treatment regardless of urodynamics evaluation. In the management of UI patients' QoL questionnaires before and after treatment might be helpful.

Keywords: Mixed type incontinence; quality of life form; urodynamics

INTRODUCTION

Urinary incontinence (UI) affects nearly half of women globally (1, 2). Some of these patients may benefit from life-style changes such as behavioral therapies, weight loss, and pelvic floor muscle exercises which constitute the initial approach in the management of these patients. On the other hand, some women need medical or surgical treatment.

Urogynecological examination and simple application methods such as Q-tip test are used in first evaluation of UI patients. This would be directive in the management of a part of the patients whereas further evaluation is needed for a substantial portion.

Urodynamic evaluation is a test on bladder dynamics. It may be used in diagnosis and differential diagnosis of UI. Whereas its use in initial evaluation is questionable because of the cost problems (3) and invasive approach which may result in a timidity in patients.

The urodynamic evaluation may be helpful in the treatment choice of patients who do not benefit from life-style

Received: 03.04.2020 **Accepted:** 23.05.2020 **Available online:** 25.08.2020
Corresponding Author: Erhan Okuyan, Department of Obstetrics and Gynecology, Batman Maternity and Child Health Hospital, Batman, Turkey, **E-mail:** dreo06@hotmail.com

changes (4). UI lowers the quality of life(QoL) and one of the main targets of treatments to fix it. Therefore various questionnaire and scoring systems such as IIQ -7 and UDI-6 questionnaires were developed for QoL evaluation of UI patients (5). These questionnaires may also be used for the assessment of patients' QoL after treatment.

In our study, we aimed to evaluate whether patients benefit from UI treatment by using questionnaires before and after treatment and whether pre-treatment urodynamics affect the results.

MATERIALS AND METHODS

Study Design and Participants

The is a prospective study which was conducted in the Department of Obstetrics and Gynecology clinic in Dr. Sami Ulus Gynecology and Pediatrics Training and Research Hospital between 2012 and 2013. The study was approved by the review board of Zekai Tahir Burak Maternity and Child Health Hospital. Patients who admitted to the clinic with a complaint of urinary incontinence between 18-60 years, with birth history, no chronic diseases, no smoking or alcohol consumption, no regular medication, and no prior UI treatment history were included in the study. 60 patients who met the criteria were evaluated in 2 groups. It was divided into 2 groups of 30 patients who accepted (Group 1) and did not accept(Group 2) urodynamic exam.

Patients were treated surgically (TOT), medically (anti-cholinergic) or with both and also were evaluated in subgroups whether they received TOT (Transobturator tape), and/or medical treatment. The subgroups of Group 1 were; Group A: TOT, Group B: TOT + medical treatment, and Group C: Only medical treatment; subgroups of Group 2 were Group D: TOT + medical treatment and Group E: Only medical treatment (Table 1).

In the urodynamic exam of group 1 first sensation time, normal need and strong need of urination, maximal vesical capacity, functional urethral length, urethral closing pressure at 70% and 30%, maximal urethral closing pressure, proximal, distal and total profile area pressure and Valsalva leak point pressure (VLPP) were evaluated. Also, patients were evaluated for whether urge or stress incontinence is dominant. Urodynamic evaluation was performed again 1 month after treatment for treatment outcomes. Patients in group 2 were treated due to symptoms, and urogynecological examination. "Quality of life" scoring questionnaire (IIQ-7 and UDI-6) were performed in both groups before and 1 month after treatment. Data were analyzed using SPSS for Windows v.17.0 (SPSS, Inc., Chicago, IL, USA). Categorical variables were compared using the chi-square test or Fisher's exact test, as appropriate. The pre-treatment and post-treatment data of urodynamic evaluation was compared with the independent samples T-test. Preoperative and postoperative questionnaire scores were compared with the Wilcoxon, paired samples t-test and one way ANOVA tests were used when appropriate. The level of statistical significance was set at $P<0.05$.

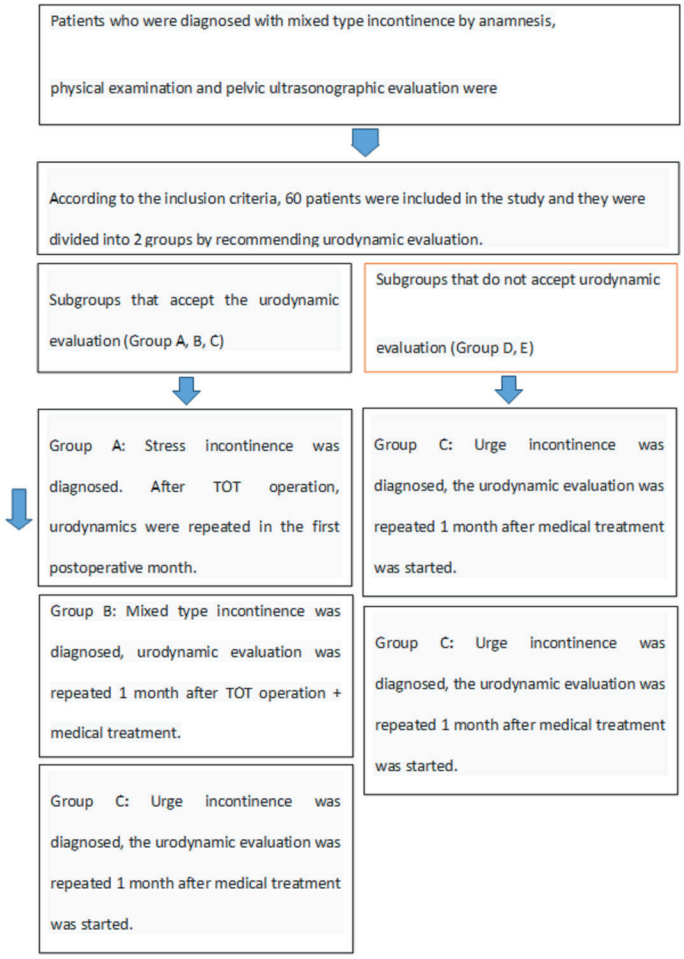

Table 1. Flow chart of study groups

Table 2. General characteristics of patients

	Urodimamics (+)	Urodinamics (-)	CIN Group n (%)
	Group 1	Group 2	P-value
Age			
35-45	12 (40%)	6 (20%)	
46-55	15 (50%)	20 (67.7%)	0.240
56-65	3 (10%)	4 (13.3%)	
Menopausal Status			
Pre-perimenopause	12(20%)	6 (10%)	
Menopause	18(30%)	24 (40%)	
Gravida (Mean)	3.76±2.02	4.23 ± 1.07	0.033
Parity (Mean)	3.40±1.79	3.20 ± 1.03	0.723
Mode of Delivery			
Vaginal	29(96.7%)	21 (70.0%)	
Cesarean Section	1(3.0%)	9 (30.0%)	
Weight of Heaviest Baby			
2000-3000	1(3.3%)	2(6.7%)	
3000-4000	15(50.0%)	20(66.7%)	
4000-5000	15(46.7%)	8(26.7%)	

RESULTS

In our study, 60 patients were registered. The mean age of the patients was 49 and 70% of patients were postmenopausal. Most of the patients were obese 45% of patients had had a BMI of >40kg/m2. General characteristics of patients were summarized in table -2.

The rate of the patients who received TOT in Group 1 and 2 were 21 (70%) and 13 (43.3%), respectively. An analysis of questionnaire scores %94.4 of all patients stated a regression in symptoms after treatment.

UDI-6 survey results showed positive changes in all groups. The post-treatment scores were lower in both Group 1 and 2. The change ratio in the survey scores was 81.1% and 67.3% in Group 1 and 2 respectively. In subgroup analysis, the highest change rate (86.4%) was detected in subgroup C which included patients evaluated with urodynamic and treated medically. On the other hand, the lowest improvement was in subgroup E (55.0%) which included patients who declined urodynamic and treated medically. IIQ-7 survey results also showed positive changes in all groups. The post-treatment scores were lower in both Grup 1 and 2 as in the UDI-6 survey. The change ratio in the survey scores was 81.1% and 63.5 % in Group 1 and 2 respectively. In subgroup analysis, the highest change rate (82.1%) was detected in subgroup B which included patients evaluated with urodynamic and treated with TOT + medically. On the other hand, the lowest improvement was in subgroup E (50.5%) which included patients who declined urodynamic and treated medically. The comparison of pre-treatment and post-treatment survey results were summarized in table -3.

When subgroups were evaluated the regression of there was no statistical difference between subgroup B and D with regard to change in survey scores. However, in medical treatment groups, the change rate was significantly lower in patients who did not agree with urodynamic (Table- 4).

Table 3. UDI-6 and IIQ-7 survey before and after the treatment. Comparison of the results in Groups and subgroups

	Scores		Change Ratio (%)	
	Pre-treatment	Post-treatment		P
UDI-6 Survey				
Group 1	14.30±14.3	2.70±1.29	81.12±8.79	**0.015**
Group 2	16.06±1.04	5.20±3.18	67.36±20.68	
Subgroup A			80.16±10.07	
Subgroup B			77.38±8.34	
Subgroup C			86.46±4.95	**0.001**
Subgroup D			83.47±11.47	
Subgroup E			55.03±17.44	
IIQ-7 Survey				
Group 1	16.20±1.97	3.00±1.08	81.1	**0.002**
Group 2	15.90±1.18	5.86±3.54	63.5	
Subgroup A			81.35±6.56	**0.001**
Subgroup B			82.10±7.83	
Subgroup C			79.77±8.83	
Subgroup D			80.40±12.01	
Subgroup E			50.59±17.80	

Table 4. Comparison of subgroups who underwent the same treatment approaches

	UDI-6 change %	p	IIQ-7 change %	p
TOT + Medical				
B	77.38±8.34	**0.054**	82.10±7.83	**0.926**
D	83.47±11.47		80.40±12.01	
Medical				
C	86.46±4.95	**<0.001**	79.77±8.83	**p<0.001**
E	55.03±17.44		50.59±17.80	

DISCUSSION

In our study, we evaluated a group of patients with UI and found significant results. Firstly the majority of patients in both groups (Group 1 and 2) benefited from all treatment approaches in a change ratio of 55-86% for UDI-6 and 50-82 for IIQ -7 questionnaire scores. Secondly, there was not a statistical significance in treatment results between patients who were in the same treatment approach of TOT and medical (subgroup B-D) regardless of urodynamics. Finally, the survey score change rates were lower in patients who did not agree for urodynamics and undergo medical treatment due to symptoms when compared with patients who undergo urodynamics and given medical treatment.

Urinary incontinence is a disease with complex pathophysiology in which may include stress or urge incontinence or both and affects women's social lives significantly (6). The symptoms may differ due to the dominant incontinence pattern. Patients may admit with one or more symptoms such as leak with any pressure, the sudden and frequent need of urinating, urine pass during sex, or urine leak any time of the day, etc. In the treatment of UI dominant symptoms may have a directive role for various treatment approaches such as life-style changes, medical therapy, or surgical treatment that may be performed (7). However, management may be determined better when symptoms are defined clearly whereas in most of the patients' symptoms occur together or patients may not make sense of symptoms. Urodynamic evaluation is a relatively objective and one of the most frequently used tests in UI management. It may be useful in understanding the underlying disorder and margins of the error, especially disease with a subjective interpretation (8). On the other hand, urodynamic evaluation is an invasive approach and may cause a timidity in patients. It also results an increase in treatment costs. Thus it is generally applied when life-style changes failed and a differential diagnosis is required (9). In our study, complex UI patients were excluded to evaluate the urodynamics requirement and found that there was not a significant statistical difference between Group 1 and 2 about treatment benefit. In subgroup analysis, there was not a statistical significance in treatment results between patients who were in the same treatment approach of TOT and medical (subgroup B-D) regardless of urodynamics. Patients in these groups have stress dominant incontinence and this was interpreted that stress incontinence can be defined better by the patient. Thus these patients benefited from the treatment although urodynamics not performed. In our study, we found a difference between medical treatment groups. Patients in these groups had urge type dominant incontinence. Urge type incontinence has more grey areas and subjective symptoms thus we thought that misdiagnosis may be the underlying reason for the lower benefit of subgroup E. Similar results were also established before that urodynamic evaluation does not increase the success of treatment in uncomplicated and stress urinary incontinence related cases (10).

The decrease in QoL is one of the most important reasons for the patient's admission to the hospital. Thus scoring systems such as UDI-6 and IIQ -7 questionnaire scoring systems were developed to evaluate the symptoms of patients. These scoring systems were also used for the evaluation of treatment results. Because; the target points of UI treatment are a decrease in UI frequency and the QoL feed-back of the patients. In our study, there were significant positive changes in scores of the questionnaires, and the majority of the patients stated an improvement.

The limitations of our study are the number of patients in subgroup analysis. The strengths of our study are the prospective structure, homogenous patient group, and standard management of the same urogynecology team.

CONCLUSION

Although it is limited in urge type dominant incontinence patients, non-complex UI patients benefit from appropriate treatment regardless of urodynamic evaluation. In the management of UI patients, QoL questionnaires before and after treatment may be helpful for the evaluation of the results of the treatment. And a detailed history and urogynecological examination may be directive for the treatment of non-complex UI patients who may not prefer to undergo urodynamics. Also, this may be a management option especially in countries with low income to reduce the costs. Further studies with larger case series would contribute to the literature.

Conflict of interest: The authors declare that they have no competing interest.

Financial Disclosure: There are no financial supports.

Ethical approval: This study was carried out following approval by the Research and Ethics Committee of Zeynep Kamil Education and Research Hospital, Istanbul, Turkey (2012/150).

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