The baseline voiding and storage dysfunctions does not affect long-term treatment outcome in patients with interstitial cystitis/ bladder pain syndrome-21050/#627

Yu W[1], Chiang C[2], Kuo Y[3], Kuo H[2]

1.Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan,
2.Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation and Tzu Chi University, Hualien, Taiwan,
3.Department of Urology, Yangming Branch of Taipei City Hospital, Taipei, Taiwan

Abstract

This study evaluated the correlation of the baseline voiding and storage symptoms and dysfunctions and correlated with the long-term treatment outcome in a large cohort of patients with IC/BPS.

Introduction

There has been no long-term effective treatment for patients with interstitial cystitis/bladder pain syndrome (IC/BPS).

The purposes of treatment on IC/BPS mainly focus on symptom relief and psychological adjustment. Some previous studies have reported the correlations of urodynamic study (UDS) variables with the result of KCL test and severity of glomerulations in IC/BPS, and hypothesized that there might be a role of urodynamic study to help in the diagnosis and prognostication of the treatment effects of IC/BPS.

Methods and Materials

A total of 455 patients who had been diagnosed to have IC/BPS were enrolled in this study since 1997. Among them, 211 (182 female and 29 male) could be traced using chart review or telephone interviews to collect questionnaires. All these patients had video urodynamic (VUDS) examination at baseline to identify their voiding and storage conditions and received subsequent treatments.

The primary endpoint was the changes of self-reported treatment outcome score from the beginning of treatment to the present interview. The score was adapted from Global Response Assessment (GRA) with 3 indicates markedly improved, 2 as moderately improved, 1 mildly improved, and 0 as no change, -1 as getting worse. Secondary endpoints included the changes of O'Leary-Sant score (OSS), and Visual Analogue Scale (VAS) for pain and the symptom flare-up rate.

Table 1. Effect of different voiding or storage dysfunction on the parameters of patients with IC/BPS (n=211)

		Normal (n=13)	Storage or voiding dysfunction (n=79)	Storage and voiding dysfunctions (n=119)	P value
Sex	male	5(38.5%)	12(15.2)	12(10.1)	0.017*
	female	8(61.5%)	67(84.8%)	107(89.9%)	
Age		54.5±13.2	57.8±13.4	56.4±12.4	0.607
Duration		11.9±6.3	15.5±9.2	16.9±10.5	0.187
Comorbidity		2.5±1.9	2.0±1.8	2.3±1.7	0.447
Type of treatment		2.9±0.5	2.7±0.7	2.7±0.7	0.588
ΔOSS		-9.3±10.1	-11.1±10.2	-9.3±11.3	0.515
ΔVAS		-2.1±3.2	-2.1±3.6	-1.8±3.9	0.899
MBC		846.2±142.1	661.5±204.2	645.8±168.8	0.001*
Glomerulations		1.2±0.7	1.8±0.9	1.8±0.9	0.075
Treatment outcome	-1	1(7.7%)	4(5.1%)	7(5.9%)	0.953
	0	3(23.1%)	19(24.1%)	37(31.1%)	
	1	3(23.1%)	13(16.4%)	21(17.6%)	
	2	5(38.4%)	30(38.0%)	38(31.9%)	
	3	1(7.7%)	13(16.4%)	16(13.5%)	
Flare up		2.0±2.9	2.5±3.3	2.8±3.3	0.634

ΔOSS: change of O'Leary-Sant symptom score, ΔVAS: change of visual analog score of pain, MBC: maximal bladder capacity

Results

The mean age was 56.8 ± 12.8 years, and mean duration of IC symptoms was 16.0 ± 9.9 years. According to their baseline VUDS reports, 187 (88.6%) patients had a storage problem, 130 (61.6%) had voiding problems, and 62.7% had from 1 to 3 comorbidities.

In the voiding condition, regardless of the voiding type, duration of IC/BPS, comorbidity, times of treatments, changes in OSS and VAS, MBC, glomerulations, self-reported treatment outcome, and flare-up rate were not significantly difference among different voiding subtypes. Additionally, in the storage condition, excluding the MBC (p=0.001) and glomerulations (p=0.004), the other measured parameters showed no significant difference among different storage subtypes. When we divided the patients into three groups (completely normal n=13; any kind of storage or voiding dysfunction n=79; having both storage and voiding dysfunction n=119), the only significant factors were age (p=0.017) and glomerulations (p=0.001) (Table 1).

Conversely, if we analysed and group by the self-reported treatment outcomes (GRA ≤ 1, n=108; GRA ≥ 2, n=103), patients with a GRA≥2 had a significantly shorter duration of disease. There were also significant associations between GRA and the changes of OSS ($p < 0.001$) and VAS ($p < 0.001$). The voiding or storage conditions detected by the VUDS were not associated with the treatment outcome (Table 2).

Table 2. Correlation of different self-feeling treatment outcomes with various parameters and voiding and storage dysfunction (n=211)

		Self-reported Treatment outcome		P value
		GRA≤ 1(n=108)	GRA≥ 2(n=103)	
Sex	male	18(16.7%)	11(10.7%)	0.207
	female	90(83.3%)	92(89.3%)	
Age		57.1±12.9	56.4±12.7	0.703
Duration		18.1±10.5	13.9±8.6	0.002*
Comorbidity		2.4±1.9	2.0±1.5	0.112
Type of treatment		2.8±0.7	2.7±0.7	0.598
ΔOSS		-5.1±9.3	-15.2±9.9	<0.001*
ΔVAS		-0.8±3.9	-3.1±3.2	<0.001*
MBC		655.9±179.4	672.9±195.1	0.511
Glomerulations		1.8±0.9	1.8±0.9	0.839
Flare up		3.0±3.4	2.3±3.1	0.128

GRA: global response assessment, ΔOSS: change of O'Leary-Sant symptom score, ΔVAS: change of visual analog score of pain, MBC: maximal bladder capacity

INTERPRETATION OF RESULTS

The baseline voiding and storage conditions do not affect the treatment outcome of patients with IC/BPS. Patients with a GRA ≤ 1 had significantly longer disease duration, indicating their symptoms were not relieved after several kinds of treatment modalities with time.

The less favorable treatment outcome is also associated with a less improvement of IC symptoms and pain VAS.

However, the treatment outcome is not significantly associated with different voiding or storage conditions as shown in VUDS.

Conclusions

There was no definite treatment modality to provide durable treatment outcome for IC/BPS. In this large cohort, only 103/211 (48.8%) patients have a successful treatment outcome after a mean follow-up duration of 16 years.

The baseline VUDS can differentiate several different types of voiding and storage conditions in patients with IC symptoms, but cannot predict the therapeutic outcomes.

VUDS might be useful in detecting storage and voiding conditions in patients with IC symptoms, but cannot be used as a prognostic tool for the treatment outcome.

Contact:wanzu666@gmail.com; **hck@tzuchi.com.tw**