

HYDRODISTENSION IMPROVES FREQUENCY COMPARED TO TRANSURETHRAL FULGURATION IN PATIENTS WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

Hypothesis / aims of study

The interstitial cystitis/bladder pain syndrome (IC/BPS) patients are known to void frequently to avoid severe pain induced by bladder expansion¹. However, small bladder capacity resultant from the chronic inflammation and detrusor fibrosis is also reported to be associated with frequency of IC patients^{2,3}. In this study, we tried to demonstrate whether the pain relief of IC is associated with improvement of urinary frequency, and we have compared perioperative pain and frequency change according to the treatment methods.

Study design, materials and methods

We have investigated IC patients who had received operation from January 2013 to February 2016. All the patients had Hunner's lesions confirmed with cystoscopy and they underwent endoscopic treatment for pain relief (hydrodistension (HD), transurethral fulguration (TUF), or both). The 24-hour frequency, nocturia, average voided volume, and maximum voided volume were evaluated based on the frequency volume chart (FVC). Pain assessment was based on O'Leary-Sant IC questionnaire. Pain score was defined as the sum of two questions regarding pain (4th item of IC symptom index and 4th item of IC problem index). The patients who received HD only or HD with TUF were categorized as Group-HD, and the patients who received TUF only were categorized as Group-TUF. We made comparison of pain score and FVC parameters before and after surgery with Wilcoxon signed-rank test.

Results

A total of 23 patients (4 male, 19 female) were investigated. Mean age at operation was 66.4(52.1–80.5) years old. Out of them, 4 had HD, 11 had TUF and 8 had both procedures. There were no statistically significant differences in preoperative data including maximum voided volume ($P=0.949$), 24-hour frequency ($P=0.449$), average voided volume ($P=0.413$), nocturia ($P=0.695$) and pain score ($P=0.211$) between Group-HD and Group-TUF (Mann–Whitney U test). Postoperative evaluations were conducted at the mean period of 2.0 months after surgery. Patients of Group-HD showed statistically significant improvements in 24-hour frequency ($P=0.034$), nocturia ($P=0.004$), average voided volume ($P=0.023$) and pain score ($P=0.046$). However patients of Group-TUF showed no statistically significant improvement in frequency volume chart parameters even with significant pain relief ($P=0.011$). (Table 1)

Table 1. Perioperative comparison of frequency-volume chart parameters and pain score grouped by operation

Group-HD (N=12)	Preoperative FVC parameters	Postoperative FVC parameters	P-value
24-hour frequency (mean)	15.7	12.3	0.034*
Nocturia (mean)	3.7	2.5	0.004*
Average voided volume (mean, ml)	105.9	142.2	0.023*
Maximum voided volume (mean, ml)	190.0	233.6	0.122
Pain score (mean, point)	5.25	3.08	0.046*
Group-TUF (N=11)			P-value
24-hour frequency (mean)	13.1	11.2	0.085
Nocturia (mean)	4.2	3.4	0.201
Average voided volume (mean, ml)	122.2	136.3	0.374
Maximum voided volume (mean, ml)	191.8	218.2	0.083
Pain score (mean, point)	6.6	3.0	0.011*

* $P<0.005$, Wilcoxon signed-rank test

Interpretation of results

We could observe that the pain relief was not always associated with improvement in urinary frequency. And, the component of 'hydrodistension' implied association in lengthening of voiding interval.

Concluding message

In this study, patients who received HD showed improvement of urinary frequency accompanied with pain relief. However, the pain relief treated only with TUF had not improved urinary frequency. These preliminary findings suggest that the origin of urinary frequency of IC/BPS is not only the pain, but also another etiological cause to be clearly demonstrated. Further study with large number of patients is going to be continued.

References

1. Int J Urol 2014;21:183-4
2. Histopathology 2010; 57:371–83.
3. J. Urol. 2009; 181: 2550–4.

Disclosures

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