

THE PATIENTS WITH KETAMINE-INDUCED CYSTITIS (KIC) HAVE MORE SEVERE LOWER URINARY TRACT SYMPTOMS AND SMALLER BLADDER CAPACITY THAN PATIENTS WITH INTERSTITIAL CYSTITIS / BLADDER PAINFUL SYNDROME (IC/BPS)

Hypothesis / aims of study

The symptoms of ketamine-induced cystitis (KIC) include a range of lower urinary tract symptoms (LUTS) mainly irritative in nature and the patients will complain of intense urgency, extreme frequency and intractable dysuria. Previous study reported urodynamic studies in KIC patients have been utilised with most values being < 150 ml. Other studies suggested that cystoscopy showed ketamine-induced cystitis with ulcerative bladder mucosa and was similar to cystoscopic findings in patients with IC/BPS. The aim of this study is to investigate urodynamic examination parameters and the findings of cystoscopic hydrodistension compared with IC/BPS patients and the association between voiding symptoms and objective findings

Study design, materials and methods

From 2007 to 2010, 23 patients who were admitted due to LUTS with recreational ketamine abuse history. Fifty IC/PBS patients were included as control group. These two group patients were assessed by validated questionnaire including O'Leary-Sant Symptom (ICSI) and Problem Index (ICPI) was used to objectify subjective symptoms. Pelvic Pain and Urgency/Frequency (PUF) questionnaire was also completed. We practiced the standardized consecutive filling cystometry and we recorded volume at first desire to void (FDV), normal desire to void (NDV), strong desire to void (SDV) and maximum cystometric capacity (MCC). All patients have undergone hydrodistention and cystoscopic maximal bladder capacity (MBC). These data were analyzed using t test and Pearson correlations between symptom score, urodynamic findings, and maximal bladder capacity.

Results

The demographics of the 23 patients with KIC were a mean age of 25.5 ± 5.3 years and the 50 patients with IC/BPS with a mean age of 40.3 ± 9.6 years. KIC patients were statistically significant younger than IC/BPS patients ($p < 0.01$). Patients with KIC had higher ICSI, ICPI, and PUF scores than those with IC/BPS (13.7 ± 3.5 v 11.8 ± 4.7 , 12.0 ± 3.9 v 10.8 ± 2.8 , 22.4 ± 7.2 v 19.0 ± 5.3). Highly significant decreased of values for FDV, NDV, SDV, and MCC in the patients with KIC were observed compared with IC/BPS respectively (49.6 ± 40.1 v 94.4 ± 50.3 , 60.4 ± 51.0 v 121.6 ± 58.4 , 72.3 ± 56.1 v 188.8 ± 96.9 , 93.2 ± 68.9 v 247.4 ± 106.2 , $p < 0.01$). Similarly, the KIC group had statistically significant lower MBC than IC/BPS group (268.7 ± 168.2 v 647.50 ± 156.2 , $p < 0.01$). (Table 1) While we correlated the ICSI, ICPI, PUF and urodynamic parameters of KIC patients, the correlation was non-significant except that of the MBC and PUF ($p < 0.05$).

Interpretation of results

Our study revealed that the patients with KIC have worse symptom scores, poor quality of life and significant decrease of urodynamic parameters and cystoscopic compare to those with IC/BPS. Moreover, the KIC patients were younger than IC/BPS patients but have poor bladder function and smaller bladder capacity under hydrodistension. A higher PUF score was associated with decrease of MBC. Although the correlation between the severity of clinical symptoms and urodynamic parameter was not significant, the trend that the patients with worse symptom scores seems to have smaller cystometric bladder capacity due to ketamine urological insult in KIC patients was likely.

Concluding message

Subjective symptom scores and urodynamic parameters in patients with KIC seem more severe compare to those with IC/BPS. Statistically significant decrease of MBC in patients with KIC was negatively correlation to higher PUF scores implying that MBC may play an important role in not only irritative symptoms but also pain perception.

Table 1 Voiding symptoms, urodynamic findings and anesthetic bladder capacity in KIC & IC/PBS

	KIC (n=23) Mean±SD	IC/BPS (n=50) Mean±SD
Age	25.5±5.3*	40.3±9.6*
Voiding symptoms		
ICSI	13.7±3.5*	11.8±4.7*
ICPI	12.0±3.9*	10.8±2.8*
PUF	22.4±7.2*	19.0±5.3*
Urodynamic parameters		
FDV	49.6±40.1*	94.4±50.3*
NDV	60.4±51.1*	121.6±58.4*
SDV	72.3±56.1*	188.8±96.9*
MCC	93.2±68.9*	247.4±106.2*
Hydrodistension MBC	268.7±168.2*	647.50±156.2*

* $p < 0.01$

Disclosures

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