

THE PREVALENCE OF NON-BLADDER CONDITION IN PATIENTS WITH KETAMINE ABUSE AND IC/BPS

Hypothesis / aims of study

Recreational ketamine abuse cause lower urinary tract symptoms including dysuria, urinary frequency, urgency, urge incontinence and hematuria. Several reports showed denuded epithelial inflammation of the bladder and petechial hemorrhage. As with similarly presenting interstitial cystitis, several studies investigated the pathophysiology as purinergic neurotransmission of ketamine induced uropathy. A recent study found that patients with IC/BPS often have other non-bladder conditions such as irritable bowel syndrome (IBS), fibromyalgia (FM), migraine headaches, and depression. These IC/BPS patients with comorbid disease seem to be more severe pain than without. The aim of this study is to investigate if prevalence of non-bladder condition in ketamine induced uropathy compared to ketamine abusers without bothering lower urinary tract symptoms (LUTS) and IC/BPS patients.

Study design, materials and methods

This was a retrospective cross-sectional study. Of 32 patients who were admitted due to severe lower urinary tract symptoms with recreational ketamine abuse history more than one year and 27 female age-matched IC/BPS patients who were compatible with AUA/SUFU criteria including unpleasant sensation (pain, pressure, discomfort) perceived to be related to bladder with duration >6 weeks were included. All of patients with ketamine induced uropathy and IC/BPS patients were assessed by cystoscopic hydrodistension and all of them have different severity of glomerulations or post-dilated hemorrhage. Moreover, we collected 44 ketamine abusers without LUTS with the duration than one year of their ketamine abuse. The definition of ketamine abusers without bothering LUTS was 1.no pelvic pain (VAS pain score=0) 2.mild LUTS (ICSI+ICPI <6). All these three groups completed measures of pain severity (Visual Analog Scale), bladder symptom severity (IC Symptom Index, IC Problem Index) and non-bladder condition as medical history questionnaire including FM, IBS, allergic history and depression. These data were analyzed using point bi-serial correlation for ANOVA and chi-square to evaluate symptoms and comorbid disease in these three patient's groups.

Results

There is no difference in age between ketamine abuser without bothering LUTS and ketamine induced uropathy. Age-matched IC/BPS showed more severe LUTS than ketamine induced uropathy and ketamine abusers without bothering LUTS (ICSI: 13.00 vs 9.72 vs 1.11, $p < 0.001$; ICPI: 11.73 vs 7.13 vs 0.27, $p < 0.001$). More severe pain perception in IC/BPS and ketamine induced uropathy groups were found than ketamine abuser without bothering LUTS (VAS pain: 5.40 vs 4.16 vs 0, $p < 0.001$). There is no difference in IBS and FM between these three groups. However, ketamine induced uropathy had more severe depression and allergy history than age-matched IC/BPS and ketamine abuser without bothering LUTS (Depression: 53.1% vs 7.4% vs 9.1%, $p < 0.001$; Allergy: 62.5% vs 37% vs 25%, $p = 0.004$).

Interpretation of results

Ketamine induced uropathy have more diagnosis of depression and allergy history than IC/BPS and ketamine abuser without bothering LUTS.

Concluding message

Ketamine induced uropathy have more diagnosis of depression and allergy history than IC/BPS and ketamine abuser without bothering LUTS. Further study need to evaluate causality and pathogenesis between comorbidity and uropathy induced by ketamine.

<Table 1> Age and subjective symptoms between three groups using ANOVA

	Ketamine abusers without bother LUTS (N=44)	Ketamine induced uropathy (N=32)	Age-matched IC/BPS (N=27)	P value
Age	26.81 ± 3.7	26.58 ± 4.4	26.54 ± 2.4	0.98
VAS Pain	0.00 ± 0.0	4.16 ± 2.8	5.40 ± 2.9	<0.001
ICSI	1.11 ± 1.2	9.72 ± 6.8	13.00 ± 3.0	<0.001
ICPI	0.27 ± 0.7	7.13 ± 5.5	11.73 ± 2.7	<0.001

<Table 2> Comorbid disease between three groups using chi-square

	Ketamine abusers without bother LUTS (N=44)	Ketamine induced uropathy (N=32)	Age-matched IC/BPS (N=27)	P value
IBS	1 (2.3%)	1 (3.1%)	2 (7.4%)	0.53
FM	1 (2.3%)	3 (9.4%)	2 (7.4%)	0.39
Depression	4 (9.1%)	17 (53.1%)	2 (7.4%)	<0.001
Allergy	11 (25%)	20 (62.5%)	10 (37%)	0.004

Disclosures

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