

Ketamine-Related Urinary Bladder Ulceration

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BRIEF HISTORY

A 23-year-old man presented with a one-month period of gross hematuria and high urinary frequency. The past history was unremarkable except he had been a ketamine abuser for more than one year.

CLINICAL EXAMINATION

Physical examination revealed mildly suprapubic tenderness. No fever or urethral discharge was found. Urinalysis suggested hematuria and mild pyuria. However, a 7-day course of empirical antimicrobial therapy did nothing to eradicate his symptoms, while a urine culture failed to yield any microorganisms. The renal and bladder ultrasound findings were inconclusive.

CYSTOSCOPY

Urethrocystoscopy under intravenous general anesthesia revealed three foci of whitish to yellowish ulceration on the posterior bladder wall (Fig. 1). A simultaneous bladder biopsy was performed and after hydrodilatation, no glomerulation or petechiae were observed.

DIAGNOSIS AND MANAGEMENT

Ketamine hydrochloride is a well-known N-methyl-D-aspartic acid receptor antagonist and is used as a short-acting anesthetic. It is becoming widely abused in night clubs and at dance parties as a recreational drug and recreational ketamine use has increased greatly over the past decade [1].

Up to the present, many causes of ulcerative cystitis associated with ketamine abuse have been identified; however, the mechanism of ketamine-induced ulcerative cystitis is not clear. Shahani et al recently reported their initial experience regarding this disease entity and hypothesized that the etiology might be the formation of an active metabolite of ketamine [2]. In their observation, the patients' symptoms, especially the irritative category, were strongly associated with ketamine use. Moore et al suggested that a high level of urine ketamine active metabolites might result in bladder irritation [3]. In addition, ketamine abusers are likely to be exposed others

drugs and chemicals. The complex drug interactions and/or direct toxicity of these drugs may cause bladder dysfunction. Thus, the pathophysiology of ulcer formation in this patient group still needs to be investigated in depth.

Our case had undertaken recreational ketamine for more than one year before he visited us. His symptoms resolved after he had received antimuscarinics, oral empirical antibiotics and discontinued the use of ketamine for one week. Follow-up urinalysis was clear. The previous cystoscopy biopsy of the ulcerative lesion revealed infiltrating eosinophils (Fig. 2), which is compatible with ketamine-associated ulcerative cystitis [2].

In conclusion, this is the first endoscopic demonstration of ketamine-related bladder ulceration in the literature. A detailed history taking and high clinical alertness by urologists, gynecologists and emergency physicians is mandatory in order to establish this diagnosis. Symptomatic treatment and cessation of ketamine use is necessary when treating these patients. This report highlights the importance of inquiring into the drugs used by the patient during history taking so that a differential diagnosis can be made among young men with refractory urinary tract infection.

REFERENCES

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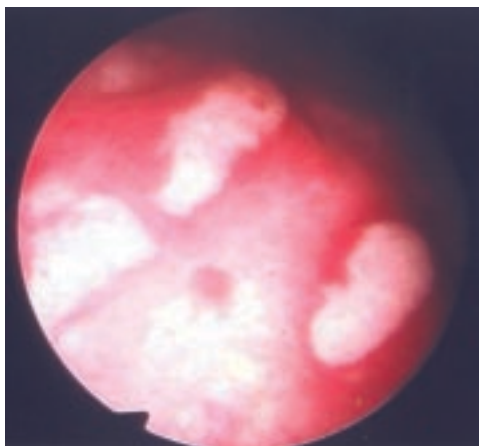


Fig. 1. Cystoscopic examination showing multiple ulcerated lesions.

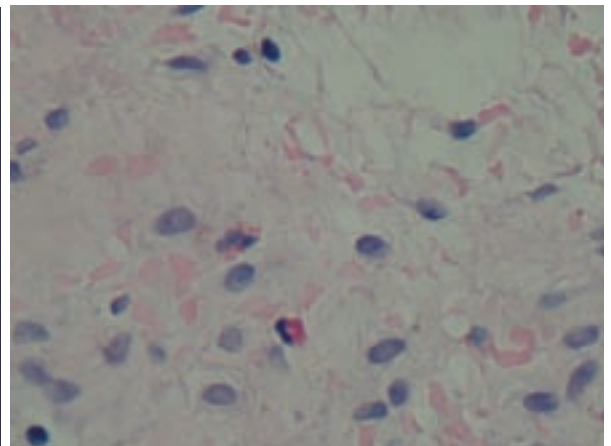


Fig. 2. Pathological examination of the biopsy of one of the lesion revealed infiltrating eosinophils.