

URODYNAMIC CHARACTERISTICS IN PATIENTS WITH KETAMINE ASSOCIATED CYSTITIS

Hypothesis / aims of study

Ketamine abuse may cause variable lower urinary tract symptoms and severe cystitis. In this study, we evaluated the relevance of urodynamic parameters according to the dose and duration of ketamine use.

Study design, materials and methods

The urodynamic study results were analysed retrospectively in 28 consecutive patients with ketamine associated cystitis between Jan 2009 and Feb 2012. All patients had been diagnosed based on the history and clinical features before urodynamic investigation. After urodynamic studies, cystoscopy was performed to confirm the diagnosis and measure the maximal bladder capacity under spinal or general anesthesia.

Results

Mean ($\pm$ SD) age of patients with ketamine associated cystitis was 21.9 ± 3.7 years. Their duration of ketamine abuse was 35.8 ± 19.5 months. All patients had a cystoscopy that showed various degrees of epithelial inflammation, neovascularization and petechial haemorrhages of the bladder. The volume at first desire to void and urgency were 50.3 ± 33.2 ml and 95.5 ± 65.2 ml. Maximum cystometric capacity was 104.8 ± 14.3 ml. 70% of patients had a high maximal urethral closure pressure (>90 cmH₂O). There was no significant difference of urodynamic parameters between the high-dose (>5 gm/day) and low-dose groups (≤ 5 gm/day) or the long-duration (> 3 years) and short-duration (< 3 years) groups. The maximum bladder capacity was significantly lower in patients used high-dose ketamine comparing to those who used low-dose ketamine (178.3 ± 59.8 vs. 286.0 ± 87.2 ml; $P < 0.01$). Patients used ketamine for more than 3 years also had a significant lower maximum bladder capacity than those who used ketamine for less than 3 years (230 ± 14 vs. 303.8 ± 31.7 ml; $P = 0.038$).

Interpretation of results

Urodynamic test results revealed that all patients with ketamine associated cystitis had a hypersensitive bladder with a small capacity. Most of the patients had a high maximal urethral closure pressure. The duration and dose of ketamine use seemed no influence on the urodynamic parameters. However, the maximum bladder capacity measured under anaesthesia significantly reduced in both long-duration and high-dose groups.

Concluding message

Urodynamic test results help diagnose ketamine associated cystitis, but may not be useful in determining the severity of disease. High-dose (> 5 gm/day) or long-duration (> 3 years) ketamine use can cause significant reduced anatomic bladder capacity. Maximum anaesthetic bladder capacity may be a useful parameter to evaluate the disease progression of ketamine associated cystitis.

References

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Disclosures

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