

Project Title: Prospective longitudinal study on the treatment outcomes of various treatment modalities under a standardized treatment protocol in patients suffered ketamine-induced voiding dysfunction (BDF 110010)

Executive summary:

Background & Objective

With the increase in recreational usage of ketamine over the world, ketamine-induced voiding dysfunction (KIVD) is becoming an important medical problem. However, while the clinical manifestation of the condition is becoming better defined, the underlying pathophysiology is still poorly understood. Moreover, majority of the current treatment is based on the experience on some small case series and there is no treatment data for larger patient sample or standard recommended treatment in the literature. With the rapid increase in patients' demand, there is an urgent need for better clinical study on the effect of various treatment regimes for the condition, to provide more evidence-based recommendation for them. Therefore, we would like to prospectively study the treatment result of various treatment modalities under a standardized treatment protocol. We hope our results would help to evaluate the effectiveness and also tolerability of various proposed treatment options in KIVD.

Methods

This is a prospective case series including all patients who attended our centre for ketamine related urological problems. Management for the patients include a 4-tier approach, namely anti-inflammatory drug / anti-cholinergic, opioid analgesic / pregabalin, intravesical hyaluronic acid, and finally surgical intervention including hydrodistension and augmentation cystoplasty. Outcome was assessed by standard questionnaires [Pelvic pain-urgency-frequency (PUF) symptom scale, EuroQol Visual Analogue Scale (EQ VAS) and general response assessment (GRA)] and also urine flow study. Also the adverse effect of the treatment was also recorded. Moreover, possible predictive factors for treatment outcomes would also be assessed.

Results

Between December 2011 and June 2014, 463 patients attended our clinic for KIVD, with 294 of them having their first assessment during the project period (1st July 2012 to 30th June 2014), and all were managed by the same team with the same standardized protocol. Amongst these patients, 319 patients came back for follow-up assessment. Overall mean follow-up duration was 10.7 ± 8.5 months, with 126 patients have follow-up more than 1 year. For those patients who received first line treatment (290 patients) with at least one follow-up in our centre, 202 (69.7%) patients reported improvement in symptom, 46 (15.9%) patients reported similar symptom and 42 (14.5%) reported worsening of treatment. There was also significant improvement in PUF scores, quality of life score and also voided volume. Both abstinence from ketamine usage and the amount of ketamine consumed were factors predicting the improvement of PUF scores. For those patients who required second line oral therapy (62 patients), 42 (67.7%) patients reported improvement in symptom, with significant improvement in PUF scores, quality of life score and also voided volume. The amount of ketamine usage per week, abstinence status and baseline symptom scores were significant factors in predicting patients' need for second line therapy. Eight patients have completed the intravesical therapy. Besides there was a significant improvement in voided volume for the patients after treatment, 5 of them could step down their oral medication usage. There were 109 patients reported adverse effects reported and most of them were mild and related to the use of anticholinergic agents. No adverse effect was reported after second and third line treatment.

Conclusion

The study demonstrated the efficacy of managing ketamine induced voiding dysfunction using a standardized treatment protocol. Both anti-inflammatory drugs and analgesics could effectively alleviate symptoms from ketamine cystitis. However, abstinence from ketamine usage and the amount of ketamine consumed remained two important factors concerning the response to treatment as well as symptom relief.