

A targeted urological treatment program for secondary school students abusing psychotropic substance and a territory-wide school-based survey of bladder dysfunction symptoms associated with psychotropic substance abuse

Executive summary

Ketamine-associated uropathy is an emerging clinical entity characterized by severe lower urinary tract symptoms (LUTS) as a result of illicit ketamine use. Although the exact mechanism of injury to the urinary tract is not fully understood, it is a kind of chemical-induced inflammation predominantly affecting the urinary bladder. Patients usually have severe urinary frequency, urgency, painful haematuria, bladder pain and very small voided volumes. Cystoscopic findings always show a contracted bladder with reduced capacity and cystitis changes. Prospective data on patients seeking treatment for ketamine-associated uropathy is lacking in existing literature. There are no evidence-based recommendations on investigations and treatment for such patients. It has been reported that cessation of ketamine use alone does not improve the symptoms in every patient.

Youth Urological Treatment Centre (YUTC) was established in 2011 by the Department of Surgery of the Chinese University of Hong Kong after receiving the funding support from the Beat Drugs Fund of Hong Kong SAR Government. The mission of YUTC is to provide early urological assessment and treatment to young patients suffering from ketamine-associated uropathy, and to formulate a practical and cost-effective management protocol by concentrating the experience in a single centre. The unique service model of YUTC which collaborates with NGOs has benefited over 300 patients within two years. The non-invasive investigation approach adopted in YUTC is well tolerated by patients and provides useful information both in the initial assessment and after treatment to evaluate outcomes. Our findings suggest that female gender and increase in dose/frequency of ketamine use are associated with more severe LUTS and poorer voiding function before treatment. Almost half of the active abusers who have developed ketamine-associated uropathy symptoms have abnormal liver function. An integrated anti-inflammatory therapy composed of oral medications improves the urological symptoms in more than half of the patients. Cessation of ketamine use significantly enhances the response to treatment and gives the best chance to improve voiding function while the longer history of ketamine use is associated with poor treatment outcomes.

A population-based survey among local secondary school students was also conducted from Jan 2012 to Jan 2014 to investigate the difference in prevalence of LUTS between those with and those without psychotropic substance abuse. 12,350 students from 45 schools participated in the study. The findings suggest a significantly higher prevalence of LUTS among psychotropic substance abusers in comparison to normal control population with no history of substance abuse. Ketamine is the most commonly abused substance among the students and ketamine abusers experience more LUTS than abusers of other psychotropic substances. Female ketamine abusers tend to have more LUTS than male ketamine abusers.