Gastrointestinal, hepatic and biliary sequelae of frequent ketamine use: a prospective observational study

EXECUTIVE SUMMARY

Recreational ketamine use (i.e. non-prescribed use of ketamine irrespective on the frequency of use) has emerged as an important health and social issue worldwide. Abdominal discomfort and associated gastrointestinal complains are common in frequent ketamine users, and damage to the biliary tract has been previously reported, although the clinical profiles and sequelae have not been well-described. We prospectively recruited consecutive Chinese individuals who used ketamine recreationally at least twice per month over 6 months in the past 2 years via a territory-wide community network of charitable organizations tackling substance abuse. Clinical demographics were recorded, and gastrointestinal symptoms were assessed via a standardized score. For participants at risk of biliary tract anomalies, magnetic resonance cholangiography (MRC) was performed and interpreted independently by two radiologists, with findings analyzed in association with clinical characteristics. One hundred and twenty-seven participants (mean age 29.6±5.4 years, 46.5% male) were recruited, with a mean ketamine exposure duration of 10.6 (±3.9) years. The mean Patient Assessment of Gastrointestinal Disorders Symptom Severity Index (PAGI-SYM, total score 100) was 70.8 (±17.3). Among fifty-two (40.9%) were MRC performed, 73.7% had biliary anomalies, which included common bile duct anomalies (68.4%) and intrahepatic duct changes (52.6%). Sole recreational ketamine use (odds ratio 1.99, 95% confidence interval (CI) 1.11-3.58, p=0.021), and history of emergency attendance for urinary symptoms (odds ratio 1.95, 95% CI 1.03-3.70) were independently associated with biliary tract anomalies. Ketamine abstinence was associated with a significant improvement in PAGI-SYM score (p<0.001) and reversibility on biliary anomalies on MRC. Prolonged exposure can result in decompensated cirrhosis and death. In conclusion, severe degrees of abdominal discomfort and biliary anomalies on MRC were noted among recreational ketamine users, with clinical benefit of abstinence clearly demonstrated. Study findings may aid public health efforts in combating drug abuse worldwide.