Chronic biliary colic associated with ketamine abuse

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Introduction: Biliary colic is a common clinical presentation, with the majority of cases being related to gallstone disease. However, rarely, patients may present with biliary symptoms without evidence of gallbladder stones—referred to as acalculous gallstone disease. This case report details a rare case of chronic biliary colic associated with ketamine abuse.

Case presentation: A 24-year-old Caucasian female presented to the emergency department with a history of intermittent right upper quadrant pain associated with nausea and malaise. She had experienced bouts of similar symptoms three times a year for the past 4 years. Various investigations had been conducted during her multiple admissions, which showed possible dilatation of the common bile duct, with no evidence of gallstones.

Conclusion: Patients can present with a dilated common bile duct and an acalculous cholecystitis. This requires considerable investigation, with an emphasis on drug history, especially with the current rise of recreational hallucinogenic drug abuse.

Keywords: gastroenterology, hepatology, substance abuse, ketamine, acalculous gallstones, biliary disease
Here, we present a case of a young Caucasian female who had a 4-year history of ketamine abuse and presented with multiple episodes of right upper quadrant (RUQ) pains and symptoms suggestive of biliary colic. Investigations showed a dilated common bile duct (CBD) with no evidence of gallstone disease.

This study was deemed exempt from full review according to the Southend University Hospital Ethical Committee, UK as this was a retrospective, non-comparative study. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

**Discussion**

Ketamine is an N-methyl-d-aspartate receptor antagonist developed in 1962 for use in anesthesia. However, “street ketamine,” which is a close analog of ketamine, has become a commonly used drug for ecstasy. Unlike the other well-known dissociative illicit drugs, ketamine is very short-acting. It takes effect within about 10 minutes, while its hallucinogenic effects last up to 2 hours when ingested orally, making it a popular “club drug” often used by teens and young adults at dance “rave” parties.

Ketamine is metabolized by hepatic microsomal enzymes and has a half-life of 2.5 hours. It is excreted mainly through urine (90%), with the remainder through bile.

Wide variety of symptoms is associated with ketamine abuse. A large number of abusers present with impaired level of consciousness, dizziness, abdominal pain, and lower urinary tract symptoms. The most common physical signs in patients with ketamine abuse are hypertension, tachycardia, and abdominal tenderness.

Severe urinary bladder dysfunction and recurrent episodes of epigastric pain associated with dilated CBD in the absence of gallstones in ketamine abusers has also been reported.

A study by Ng et al investigated the clinical presentations of ketamine abusers in 233 cases. Abdominal pain was the presenting complaint in 21% of cases, while abdominal tenderness was noted in 18% of patients. Two out of 35 patients...
who had radiological investigations had confirmed dilated bile ducts in the absence of gallstone disease. A case series published by Wong et al10 also presented similar findings. In our case radiological investigations failed to identify a cause for a dilated CBD. Based on previous studies and case series, we believe that the ketamine abuse is the most likely cause for this. Although the exact pathophysiology of ketamine-induced dilated biliary system is unknown, it is postulated that ketamine increases the flow of resistance across the sphincter of Oddi.11

In conclusion, this case report highlights the importance of drug history taking in patients presenting with abdominal pain and specifically biliary colic.

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References