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) pain 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

<table>
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<th>Table 1</th>
<th>Risk factors for acute acalculous cholecystitis</th>
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<tr>
<td>Risk factor</td>
<td>Condition</td>
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<tr>
<td>Acute myelogenous leukemia</td>
<td>End-stage renal disease</td>
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<td>Acquired immune deficiency syndrome</td>
<td>Heart failure</td>
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<td>Ampullary stenosis</td>
<td>Heart failure</td>
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<td>Bone marrow transplantation</td>
<td>Heart failure</td>
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<td>Burns</td>
<td>Heart failure</td>
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<td>Cardiopulmonary resuscitation</td>
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<td>Childbirth</td>
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<td>Choledochal cyst</td>
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<td>Cholesterol emboli</td>
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<td>Coronary heart disease</td>
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<td>Cystic duct obstruction by a percutaneous transhepatic catheter in the bile duct</td>
<td>Heart failure</td>
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<tr>
<td>Diabetes mellitus</td>
<td>Heart failure</td>
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<tr>
<td>Diabetes mellitus</td>
<td>Heart failure</td>
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Note: This is a list of the common conditions associated with the development of acute acalculous cholecystitis. Adapted from Afdhal NH. Acalculous cholecystitis. In: Post TW, editor. UpToDate. Waltham, MA: Wolters Kluwer. Accessed October 18, 2015.

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who had radiological investigations had confirmed dilated bile ducts in the absence of gallstone disease. A case series published by Wong et al 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.

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

Acknowledgment
We would like to thank all the NHS staff who tirelessly look after their patients in these difficult times. No funding was provided to write this case report.

Disclosure
The authors report no conflicts of interest in this work.

References