

INTRODUCTION

- Ketamine is used routinely in the hospital for anesthesia but is also used recreationally for its hallucinogenic and dissociative side effects.
- Chronic recreational use has been linked to bile duct damage and ulcerative cystitis.
- We report a case of ketamine induced sclerosing cholangiopathy.

Initial Presentation

A 42-year-old Cantonese woman with past medical history of bilateral hydronephrosis with stents leading to chronic kidney disease presented with acute on chronic right upper quadrant abdominal pain associated with elevated transaminases.

Alkaline phosphatase was high at 1,017 IU/L with gamma glutamyl transferase of 2,310 IU/L with normal bilirubin. Abdominal imaging showed diffuse dilatation of the common bile duct. Viral serologies and anti-mitochondrial antibody were negative.

She reported elevated liver tests for years. Social history was notable for prior alcohol abuse. She denied family history of liver diseases. Her pain resolved and plan was for outpatient follow-up

Re-Hospitalization

Subsequently, she presented with sepsis with worsening transaminases (Table 1).

Liver tests	Reference Range & Units	Initial Hospitalization	Subsequent Hospitalization	Most Recent Liver Tests
Total bilirubin	0.2 – 1.2 mg/dL	0.8	2.9	4.5
Direct bilirubin	0 – 0.5 mg/dL	0.7	1.8	3.3
Aspartate aminotransferase	5 – 34 IU/L	75	104	88
Alanine transaminase	0 – 37 IU/L	74	129	91
Alkaline phosphatase	40 – 150 IU/L	1017	1106	845
Gamma glutamyl transferase	12 – 43 IU/L	2310	2516	1897

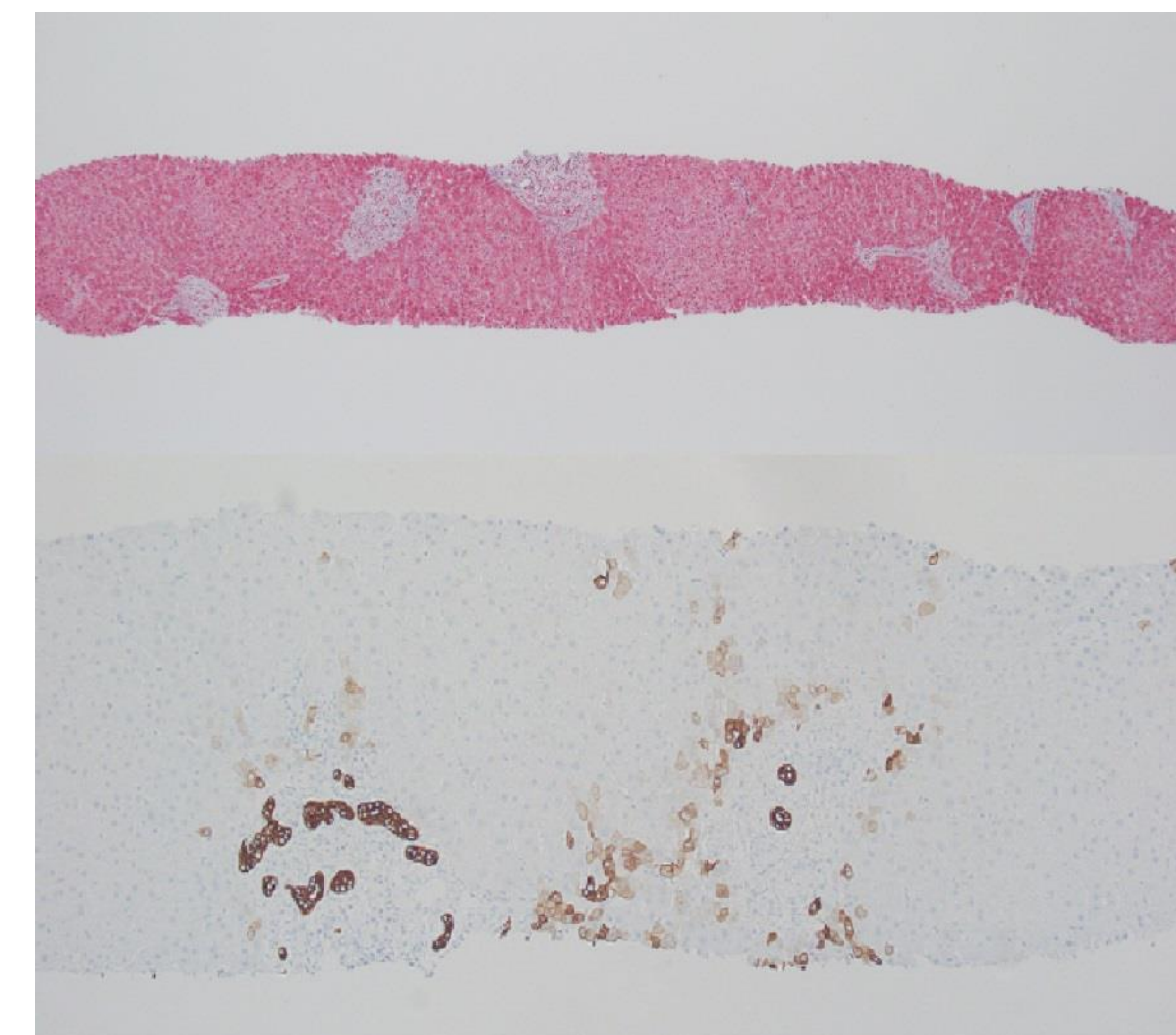
Given prior abnormal imaging, a magnetic resonance cholangiopancreatography was repeated, which showed increased intra- and extrahepatic bile duct dilation with irregular appearance of the central intrahepatic ducts with possible stricture.

Differential diagnoses:

- Recurrent pyogenic cholangitis
- Sclerosing cholangitis
- IgG4 disease (Her level was high with IgG 4 at 213 mg/dL (normal 1 – 123 mg/dL).

Hence, a liver biopsy was pursued that showed chronic cholestatic liver injury consistent with primary or secondary sclerosing cholangitis.

Upon further investigation, patient admitted to daily ketamine use for over a decade. She was counseled on ketamine cessation as it was likely the culprit of both her kidney and liver diseases.



DISCUSSION

- Due to her age, race, gender and rarity of ketamine induced cholangiopathy, she was not directly asked about ketamine use.
- Since the early 2000s, ketamine has emerged as the illicit drug of choice in Hong Kong and has seen increased use throughout Asia.
- A Chinese study showed that 62% of chronic ketamine users had biliary tract anomalies. The greater the alkaline phosphatase, the higher the likelihood of finding biliary tract anomalies on imaging.
- Ketamine cessation has resulted in normalization of liver tests and imaging, however worsening cholangiopathy has been seen despite abstinence.

CONCLUSION

Chronic ketamine use should be considered in patients with unexplained cholangiopathy.