

## INTRODUCTION

- Acute hepatitis C (HCV) infection is a common infection whose incidence is rising in the setting of increasing intravenous drug use and high risk sexual activities
- Isoniazid (INH), commonly used for treatment of tuberculosis, may cause idiosyncratic drug-induced liver injury (DILI)
- Acute HCV infection was reported in 1.5% of suspected DILI
- Herein we report a case of acute HCV infection and suspected INH hepatitis in a patient with controlled human immunodeficiency virus (HIV) infection on antiretroviral therapy (ART)

## HISTORY AND PHYSICAL

- A 54-year-old Caucasian male was admitted for several days of fatigue, nausea, and abdominal pain
- His medical history was significant for well controlled HIV infection on dolutegravir/tenofovir/emtricitabine
- The patient also reported non-monogamy (men having sex with men), marijuana use, and herbal use
- Recent events were remarkable for latent tuberculosis for which he was being treated with INH for 3 months prior to presentation
- Abdominal exam noted epigastric tenderness without guarding or rebound tenderness

## CLINICAL COURSE

- Labs initially revealed ALT 179 and AST 93; workup with acute hepatitis A, B, C serologies was negative and abdominal CT and ultrasound were unrevealing
- Given timing of liver chemistry elevation, INH was suspected as the possible cause of elevated liver chemistries and was continued given ALT < 5x ULN
- The patient's symptoms improved and he was discharged home; however, he returned after 1-2 days for abdominal pain, nausea, fatigue and was admitted again
- On the second admission, liver chemistries continued to rise with ALT 287 and AST 153 at which point INH was discontinued
- However, liver chemistries continued to rise, with ALT/AST of 984/388 on the 9th day after INH cessation
- Total bilirubin and INR had remained normal with minimally elevated ALP
- HCV antibody was non-reactive, however given continued rise in liver chemistries additional labwork was sent including HBV DNA, HCV RNA, EBV PCR, CMV PCR, HSV PCR
- HCV RNA was detected at 16.5 million IU/mL
- A liver biopsy was performed given increasing elevation in liver chemistries which showed moderate portal/lobular inflammation with abundant hepatocyte apoptosis and mild intra-canalicular cholestasis without autoimmune hepatitis was reported (Figure 1, Figure 2)

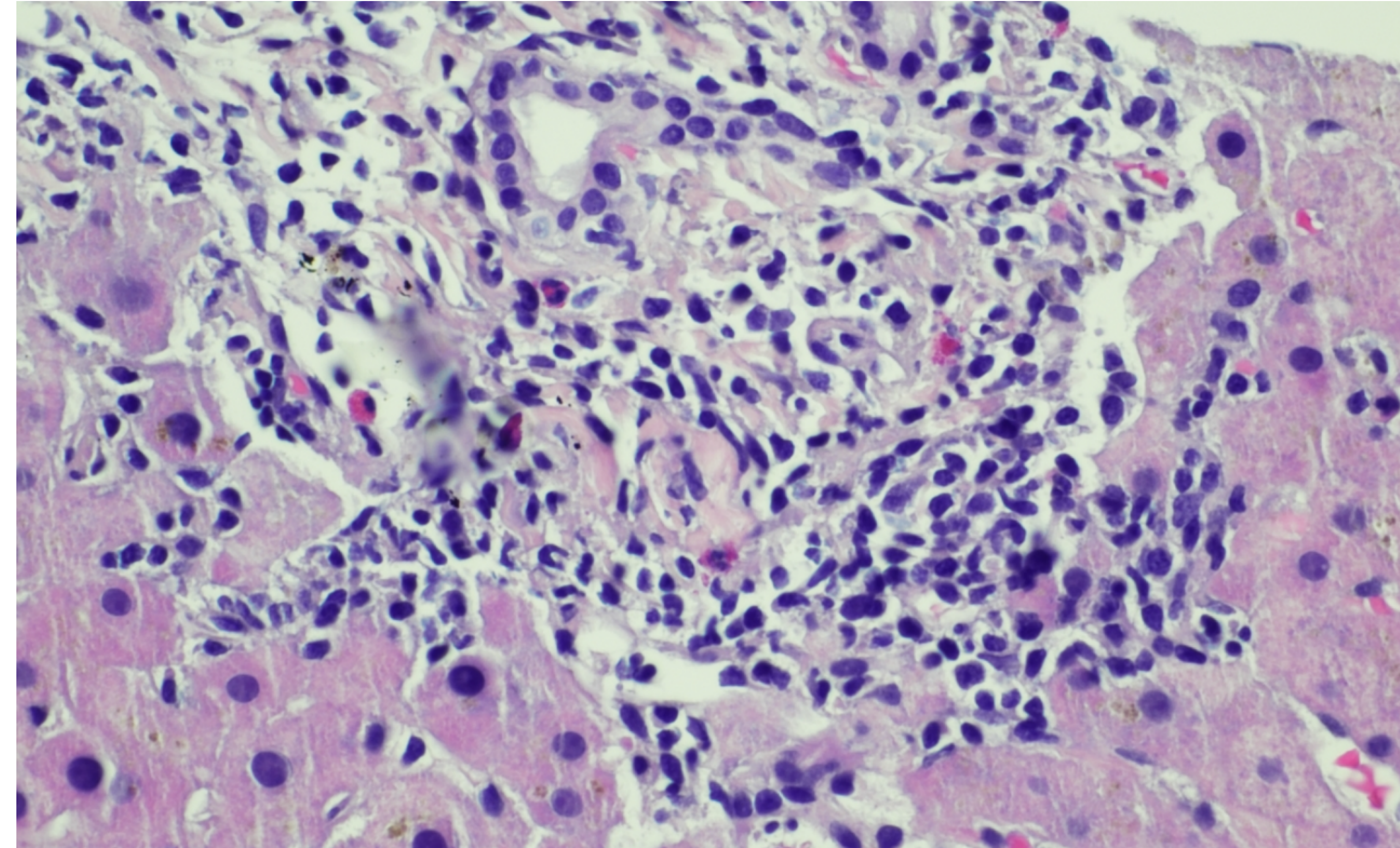


Figure 1. Fragments of benign hepatic parenchyma with moderate mixed portal and lobular inflammation composed of lymphocytes, plasma cells, eosinophils, and macrophages.

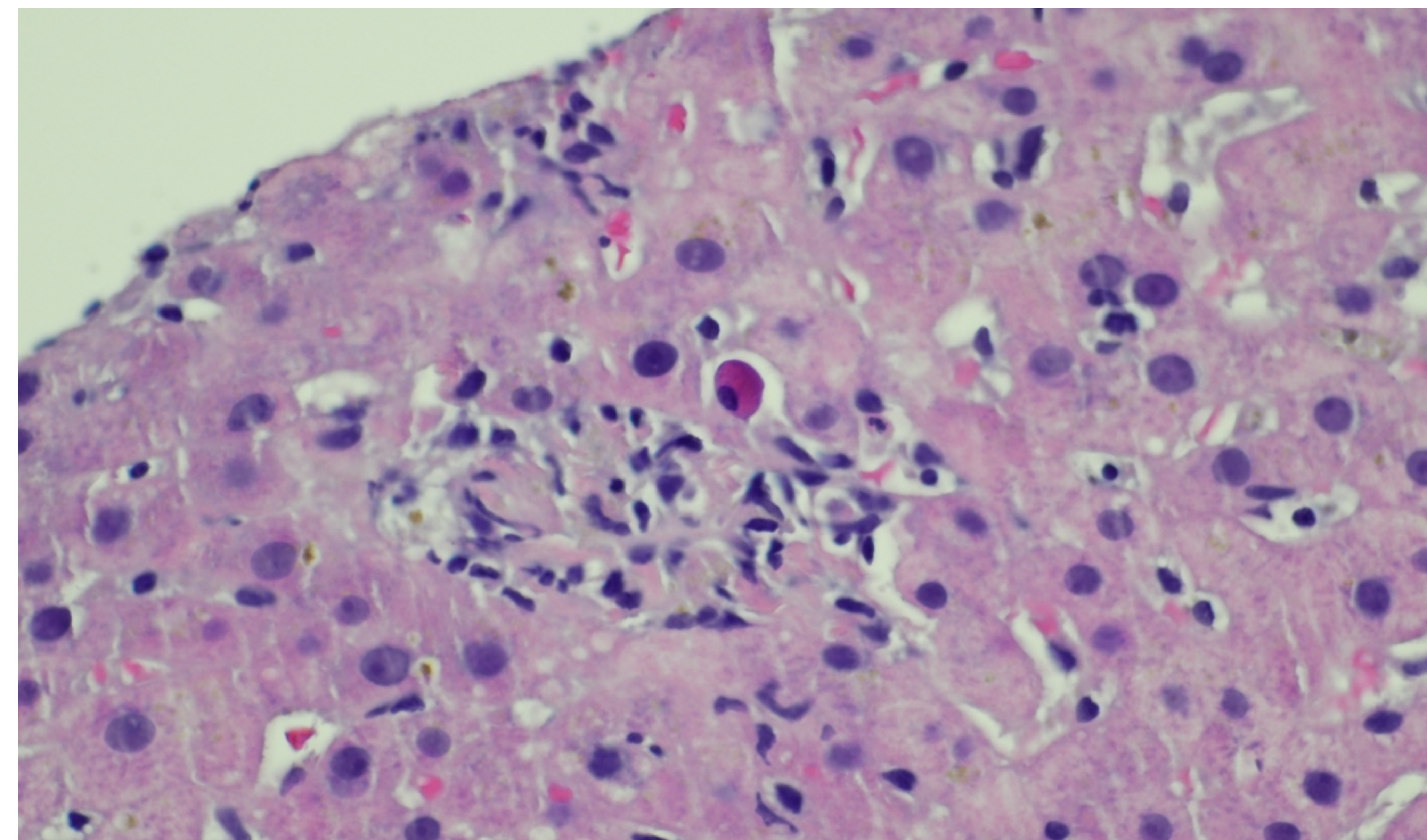


Figure 2. Apoptotic hepatocytes as well as mild intra-canalicular cholestasis seen within lobules.

## DIAGNOSIS

- Per discussion with our pathology team, biopsy findings suggested possible DILI with viral hepatitis. However, with a strong competing diagnosis of acute HCV hepatitis, persistently rising ALT/AST despite cessation of INH, and only possible causality score for INH-DILI, the suspected INH hepatitis was adjudicated as acute HCV infection
- Sofosbuvir-velpatasvir treatment was initiated with rapid normalization of ALT/AST and decreasing HCV RNA
- Two months after initiation of sofosbuvir-velpatasvir, the patient's HCV RNA was undetectable, and his liver enzymes were within normal range

## CONCLUSIONS AND DISCUSSION

- This is the first reported case of acute HCV infection for suspected INH hepatitis in a patient with controlled HIV infection on ART
- INH is a commonly used medication for TB tuberculosis with known hepatotoxicity
- The case emphasizes the importance of early HCV RNA testing for diagnosing/excluding acute HCV infection in suspicious DILI due to delayed seroconversion of HCV antibody
- HCV RNA can be detected 1-2 weeks after exposure
- The window period for acute HCV infection before antibodies are detected averages from 8 to 11 weeks
- There have been reported cases of delayed seroconversion in people who are immunosuppressed (i.e. those with HIV infection)
- Prompt treatment with highly potent antiviral agents leads to eradication of HCV with potential public health benefit
- Furthermore, thorough history with risk factor evaluation is of the utmost importance in the evaluation of elevated liver chemistries

## REFERENCES

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