

Background

- Syphilis is a rare cause of hepatitis with a reported incidence of 0.25%–38%.
- Given the resurgence of syphilis in the past decade, awareness of syphilitic hepatitis remains critical in early diagnosis and treatment.
- We present a case of secondary syphilis presenting with elevated liver enzymes diagnosed initially as drug induced liver injury (DILI) on biopsy.

Case Description

- A 45-year-old male presented to the hospital for two-week history of generalized abdominal pain associated with nonpruritic truncal rash.
- Pertinent medication history included use of testosterone and anastrozole for 5 years, and recent use of the herbal supplement ashwagandha.
- Of note, patient had taken HIV prophylaxis medications for potential exposure prior to presentation.
- Physical exam was notable for epigastric tenderness and erythematous blanching maculopapular dispersed rash throughout the chest, abdomen, back, and extremities (Figure 1).
- Initial workup revealed elevated ALP 385, AST 100, ALT 247, and total bilirubin 2.9. Abdominal CT showed hepatosplenomegaly and liver doppler ultrasound demonstrated patent vasculature.
- Viral hepatitis panel, HIV, ceruloplasmin, alpha-1-antitrypsin and autoimmune serologies were negative except for mildly positive ANA of 1:160.
- Given his medication history, rash and cholestatic pattern of liver injury, drug-induced liver injury (DILI) was suspected and liver biopsy was performed. Liver biopsy demonstrated moderate mixed portal inflammatory infiltrates and mild portal fibrosis with no bridging fibrosis or cirrhosis. Iron and PAS stains were negative.
- He was initially diagnosed with DILI and treatment was initiated with steroids.
- During the hospitalization, his rash progressed to involve both hands. A syphilis screen was positive with reflex RPR revealing titer of 1:256.
- Subsequent treponemal stain of the liver biopsy showed spirochetes in the connective tissue and blood vessels in large size portal tracts consistent with syphilis hepatitis.
- A single dose of Benzathine penicillin 2.4 million units for secondary syphilis was administered with subsequent resolution of the rash and normalization of liver enzymes on follow-up (Table 1).

Figure 1

Figure 1: Erythematous blanching maculopapular rash dispersed throughout the chest, abdomen, back, and extremities.



Discussion

- Syphilitic hepatitis can be defined as a cholestatic pattern of liver enzyme elevation with serological treponemal evidence in the absence of alternative causes of hepatic dysfunction. The clinical presentation and histopathological testing of syphilis hepatitis are often nonspecific.
- A high index of clinical suspicion along with targeted screening can lead to prompt diagnosis.
- Treatment with penicillin leads to rapid improvement in liver enzymes and prevents progression to fulminant liver failure, a rare complication

Table 1: Pattern of liver injury pre and post treatment

Complete Metabolic Panel (CMP)	At the time of admission	One week after treatment	One month after treatment
Total bilirubin	2.9	0.5	0.5
Alkaline Phosphatase	385	162	83
AST	100	30	30
ALT	247	52	42

Conclusions

- Syphilitic hepatitis is a rare but an important cause of abnormal liver enzymes.
- Syphilis infection should be a consideration in patients with high-risk features.
- Treatment with penicillin leads to rapid resolution of transaminitis, thus avoiding unnecessary and expensive workup.