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Case Report

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Syphilitic Hepatitis: A Case Report of an Uncommon Manifestation

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Abstract

Syphilitic hepatitis, associated with the increasing global prevalence of syphilis, presents with a wide range of clinical manifestations which can pose a diagnostic challenge. It is a diagnosis of exclusion and must be considered in cases of unexplained liver enzyme elevations. In this case report, we highlight the significance of timely diagnosis and treatment, while contributing to the limited existing evidence on this overlooked manifestation of the disease. This case is unique considering the even rarer occurrence of syphilitic hepatitis in patients without HIV.

Introduction

Despite significant efforts to control the disease, syphilis remains a global health concern, with an estimated 7.1 million adults aged 15-49 acquiring the infection in 2020, according to the World Health Organization [1]. In the United States, syphilis has been a notifiable disease since 1944, and in 2020 alone, there were 41,655 reported cases of primary and secondary syphilis, reflecting a rate of 12.6 cases per 100,000 population [1,2].

Syphilis progresses through various stages if left untreated. Beginning with a painless chancre, it can advance through distinct displays over time including liver manifestation, ultimately resulting in severe multi-organ complications. 25 to 40% of cases can progress to the tertiary stage, manifesting as gummatous lesions in the skin and bones and central nervous system involvement [2,3,4].

Syphilitic hepatitis can be easily overlooked, with reported incidence rates ranging from 0.2 to 9.7% among patients with syphilis [5]. It is often an incidental finding since many patients with syphilitic hepatitis can be asymptomatic at the time of diagnosis. In this study, we present an unusual case of acute liver injury acquired from syphilis, emphasizing the importance of timely recognition and consideration of this rare manifestation in patients presenting with unexplained liver abnormalities.

Case Presentation

A 58-year-old African male with a past medical history of type 2 diabetes mellitus presented with a one-week history of pruritic skin rash affecting multiple areas of his body, causing sleep disturbances. He reported painless penile sores that spontaneously resolved one week before. The remaining history was negative for potential causes of these presenting symptoms.

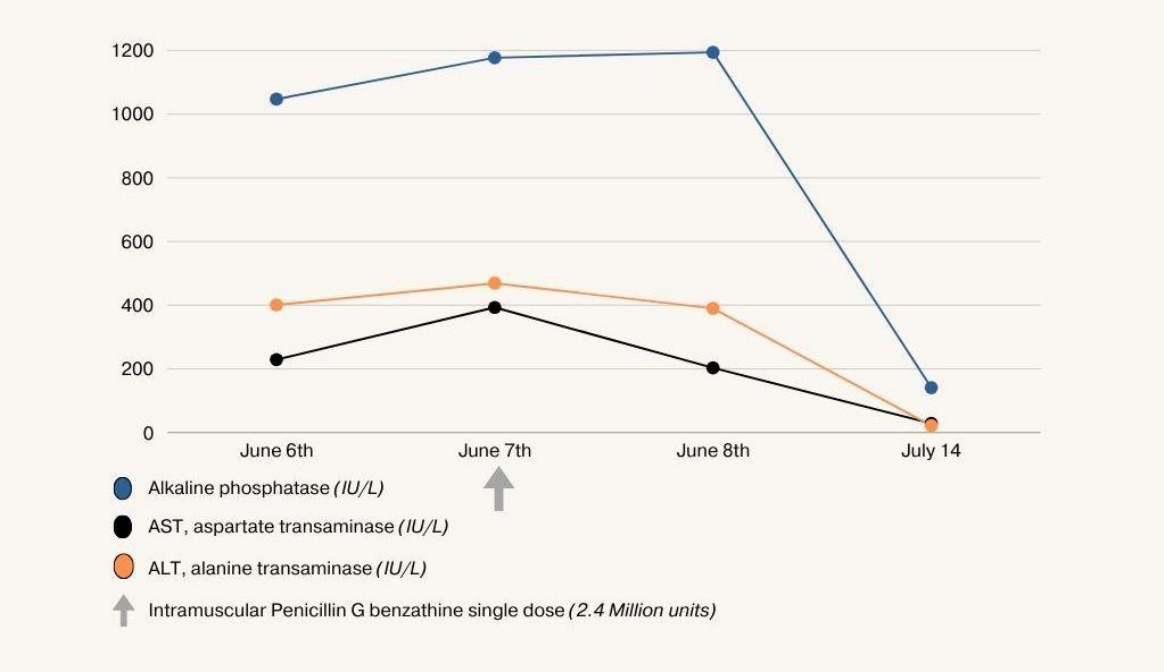
On arrival, the patient's vital signs were stable. Physical examination revealed bilateral inguinal swelling, predominantly on the right side. His skin exhibited a hyperkeratotic papular rash on the trunk, arms, neck, and penis. Mild scleral icterus was also noted. The rest of the physical exam was normal.

Laboratory workup revealed unremarkable complete blood count, basic metabolic panel, coagulation profile, and international normalized ratio (INR). However, liver function tests showed deranged liver enzymes, particularilly AST 229 IU/L (reference range: 5-40 IU/L), ALT 401 IU/L (reference range: <= 41 IU/L), GGT 1955 IU/L (reference range: 10-71 IU/L), alkaline phosphatase 1047 IU/L (reference range: 40-129 IU/L), total bilirubin 2.4 mg/dL (reference range: <= 1.2 mg/dL) with a direct bilirubin 1.4 mg/dL (reference range: <= 0.3 mg/dL). Other laboratory findings included elevated lipase levels at 820 IU/L (reference range: 13-60 IU/L). Thorough workup for elevated liver enzymes including viral hepatitides, toxic hepatitis or autoimmune hepatitis were all negative. Screening for syphilis showed a reactive rapid plasma reagin (RPR) with a titer of 1:128, prompting further testing with a positive fluorescent treponemal antibody absorption (FTA-Ab) test.

Imaging studies included an abdominal ultrasound and a computed tomography scan, which revealed enlarged bilateral inguinal lymph nodes measuring 1.7x1.9 cm on the right side and 1.9x1.1 cm on the left side, without additional lymphadenopathy. The liver appeared normal, with no focal hepatic masses detected. No stones or sludge was found in the gallbladder lumen, and there was no evidence of acute cholecystitis.

The patient received a single intramuscular dose of 2.4 million units of Penicillin G Benzathine. Clinically, the patient showed improvement, with reduced itching and resolution of the skin lesions. The patient followed up in the outpatient clinic 5 weeks later demonstrating a significant decrease in liver enzyme levels: AST 29 IU/L, ALT 22 IU/L, alkaline phosphatase 141 IU/L, and a total bilirubin of 1.5 mg/dL.

Figure 1: Liver biochemical panel before and after treatment.



Discussion

Syphilitic hepatitis, first identified 1943, is defined in 4 diagnostic criteria: 1) Serologic evidence of Treponema pallidum infection, 2) Elevated liver enzyme levels, 3) Exclusion of other potential causes of liver injury, and 4) Adequate response to antimicrobial treatment [5,6,7].

Findings from a systematic review conducted by Huang et al. in 2018 revealed that the most common clinical manifestations among patients with syphilitic hepatitis are fatigue, poor appetite, and a rash characterized by nonpruritic, erythematous, non-confluent maculopapular lesions predominantly concentrated on the trunk, palms, and soles of the feet [4]. Laboratory data typically show a significant increase in ALP and GGT levels compared to ALT and AST levels. Although not all patients undergo a liver biopsy for diagnosis, reported histological features include bile duct inflammation, hepatic granulomas, and, at times, the presence of the spirochete in liver tissue can be identified using Warthin-Starry staining [4].

Penicillin remains the standard treatment of choice for syphilitic hepatitis, with alternative options like doxycycline and ceftriaxone [4,5,6,7]. In the majority of cases, patients experience satisfactory resolution following treatment, with only a few cases progressing to fulminant hepatitis, requiring liver transplant with potentially fatal outcomes [4].

In this specific case, the patient was promptly diagnosed and treated early through hospitalization. Consequently, the patient experienced a short hospital stay and required no additional interventions such as a liver biopsy. Notably, this case stood out as the patient did not have history of HIV infection or high risk sexual behavior, both of which are commonly associated with increased prevalence of syphilis and syphilitic hepatitis. This highlights the importance of screening for syphilitic hepatitis even in atypical patient profiles, ensuring timely diagnosis and appropriate management.

Conclusion

Syphilis's prevalence is on the rise. As a consequence of its potential morbidity and mortality, the significance of meticulous history-taking and physical examination cannot be overstated. Anticipated clinical suspicion for syphilitic hepatitis optimizes patient outcomes, reduces hospitalization duration, the need for invasive testing, and healthcare costs while facilitating early treatment initiation. This case serves as a reminder that this condition exhibits varied and easily misinterpreted clinical presentations.

Consent for publication

Informed consent was obtained for this report

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