The Great Imitator Strikes Again: A Case of Syphilitic Hepatitis

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Introduction

- Syphilis is a sexually transmitted infection due to *Treponema pallidum*, and is often referred to as the "Great Imitator."
- The incidence of syphilis has been rising in the U.S. since 2001. In 2020 there were 133,945 cases of all stages, a 52% increase from 2016.[1]
- The exact incidence of syphilitic hepatitis (SH) in early syphilis is thought to be roughly 3%, but this is likely underestimated.[2]
- We present the case of a HIV-negative male with secondary syphilis and syphilitic hepatitis.

Case Presentation

- A 33-year-old healthy male was admitted with malaise and painless rash for 3 weeks.
- ROS: (+) fevers, chills, night sweats, weight loss, decreased appetite, sore throat, and odynophagia. No history of abdominal pain, substance use, primary chancre, or sexual activity with men.
- Exam: jaundice, pharyngitis without mucosal lesions, nontender cervical lymphadenopathy, and a papulosquamous rash on the trunk, penile shaft, and soles of feet (Fig 1A-B).
- Labs notable for hyperbilirubinemia, alkaline phosphatase in the 1000s, moderately elevated transaminases, positive syphilis antibody immunoassay and RPR titer of 1:128 (Table).
- CT and US showed hepatomegaly (20.2cm) without focal liver lesions (Fig 1C), and mild gallbladder wall thickening (4mm).
- Patient was treated with one dose of benzathine penicillin G 2.4M units. Symptoms resolved within 24 hours.
- A clinical diagnosis of SH was made, and liver biopsy was not performed. Liver enzymes normalized over the course of 2 months.

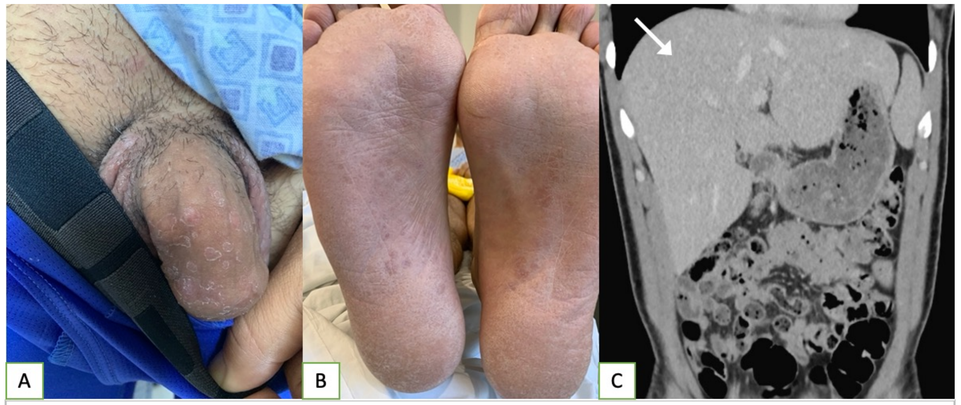

Figure 1: A. Papulosquamous rash of the penile shaft B. Resolving hyperpigmented papulosquamous rash involving the soles of bilateral feet C. CT abdomen with contrast (coronal view) demonstrating hepatomegaly, liver (arrow) measuring 20.2cm

Laboratory Testing			
Test	**Pre-Treatment**	**Post-Treatment (2 months)**	**Reference Range**
Total bilirubin	5.6	0.8	0.3-1.2 mg/dL
Direct bilirubin	2.8	N/A	0.0-0.2 mg/dL
Alkaline Phosphatase	1050	246	32-110 IU/L
AST	195	31	15-41 IU/L
ALT	442	58	15-63 IU/L
GGT	555	192	7-50 IU/L
Albumin	3.7	4.3	3.3-4.8 g/dL
Platelets	495	345	150-400 K/mcL
INR/PT	1.0/12.9	N/A	0.9-1.2/12.2- 14.4 seconds
Syphilis Antibody EIA	Reactive	N/A	Nonreactive
RPR Titer	1:128	N/A	Negative
WBC	8.9	4.8	4.8-10.8 K/mcL
HIV	Nonreactive	Nonreactive	Nonreactive
Anti-mitochondrial (M2) IgG	< 20.0	N/A	Negative < 20
Anti-smooth muscle antibodies, total	Negative	N/A	Negative
Hep A antibody, total	Reactive	N/A	Nonreactive
Hep B surface antigen	Nonreactive	N/A	Nonreactive
Hep B core antibody	Nonreactive	N/A	Nonreactive
Hep B surface antibody	Reactive	N/A	Nonreactive
Hep C antibody	Nonreactive	N/A	Nonreactive

Discussion & Conclusions

- We can expect to see SH more frequently while syphilis rates continue to rise
- Disproportionate elevations of ALP and GGT are frequently seen, likely due to pericholangiolar inflammation.[3,4]
- A disproportionate elevation in ALP can be an important clue present in most patients with SH, with relatively lesser elevations in transaminases and moderate hyperbilirubinemia.
- SH can mimic other causes of acute liver injury such as autoimmune hepatitis and primary biliary cholangitis.[5,6]
- Proposed diagnostic criteria for SH include: abnormal liver enzymes, clinical presentation of secondary syphilis with positive syphilis serologies, absence of other causes of liver injury, and improvement in liver enzymes after antibiotics.[4]
- SH should be high on the differential for patients presenting with acute liver injury and maculopapular rash.

References

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