The Great Imitator: A Case of Syphilitic Hepatitis with Neurosyphilis
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INTRODUCTION
Hepatitis is an under-recognized presentation of syphilis which has been described as “the great imitator” in Infectious Diseases.

The diagnosis of syphilitic hepatitis is often by exclusion in cases of hepatic dysfunction without laboratory proven pathology and in the presence of positive treponemal serology.

CASE
58-year-old male presenting with 2 months of jaundice and dark urine, with progressive development of visual changes, tinnitus and unsteadiness.

Fundoscopic exam showed bilateral optic nerve edema, confirmed on MRI

LABS:
Normal AST and ALT
Alkaline phosphatase 236 U/L
Total bilirubin 1.5 mg/dL
Hepatitis panel negative
HIV negative
Treponemal Ab positive
Rapid Plasma Reagin titer 1:1024

CSF:
Opening pressure 17 cmH2O
Nucleated cells 28-30
Neutrophils 26-37
VDRL titer 1:2

Treatment:
10 day course of Penicillin G IV for neurosyphilis with 3 additional doses of intramuscular weekly injection for latent syphilis

Below: Ultrasound guided needle biopsy of the liver showed inflammatory changes with presence of neutrophils, lymphocytes and plasma cells

Below Left: Warthin-Starry staining was negative for spirochetes.
Below Right: Immunohistochemistry staining performed at NeoGenomics showed rare structures (red arrow) suspicious but not definitive for spirochetes.

FOLLOW-UP
Treatment course was complicated by a Jarisch Herxheimer reaction during the first 24 hours of penicillin G 24-million-unit infusion.

Post-treatment patient had resolution of all symptoms including ocular and otic changes. Repeat lab showed normalization of alkaline phosphatase and total bilirubin

Rapid Plasma Reagin titer to be repeated in 5-6 months.

DISCUSSION
Syphilitic hepatitis commonly presents with elevated alkaline phosphatase with relatively normal transaminases.

Pathohistological findings typically show nonspecific inflammatory infiltrates with possible hepatocyte necrosis and non-caseating granulomas.

Warthin-Starry stain in these cases rarely detects the presence of spirochetes. Immunohistochemistry staining is often more sensitive in identifying spirochetes.

A 2018 review by Huang et al. found cases of hepatitis in all stages of syphilis but predominantly in early primary and secondary syphilis. A higher incidence was also noted in patients with immune deficiencies including human immunodeficiency virus.

Syphilitic hepatitis should be included in the workup of unexplained acute liver dysfunction with cholestatic pattern of injury as early detection is crucial to guide treatment and prevent further hepatic damage.

REFERENCES