

Drop-It: A Quest to Reduce Wine Sulfites Leads to Drug-Induced Liver Injury

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Introduction

Drug-induced liver injury (DILI) accounts for 50% of acute jaundice and 10% of acute liver failure. Most cases are idiosyncratic rather than intrinsic. Drop-It (hydrogen peroxide, sunflower lecithin, natural egg white protein) is a supplement marketed for reducing wine sulfites/tannins. To date, DILI due to Drop-It or its contents has never been described.

Case Description

In October 2020, a 39-year-old healthy male presented with four days of painless jaundice, fatigue, dark urine, and acholic stools. He consumed 1-3 glasses of wine daily, having used Drop-It for “months” to curb “wine headaches”, and had lost 15 lbs over 9 months. None of his medications were known hepatotoxins (multivitamin, co-enzyme Q, magnesium, vitamin D). He denied any chronic liver disease, though 4 months prior had an aspartate aminotransferase (AST) 73, alanine aminotransferase (ALT) 74, alkaline phosphatase (ALP) 138, and total bilirubin (TB) 0.8. Exam showed a flat nontender abdomen, no edema, jaundice, and no asterix. Initial labs showed AST/ALT 1452/972, ALP 211, TB 10.8 (direct fraction 7.7), and prothrombin time 17.9. Viral and autoimmune hepatitis, hereditary hemochromatosis, Wilson’s, primary biliary cholangitis, and alpha-1 anti-trypsin deficiency were ruled out. Liver dopplers showed steatosis and patent perihepatic vessels. Magnetic resonance imaging was unremarkable with no ascites. Liver biopsy reviewed by internal

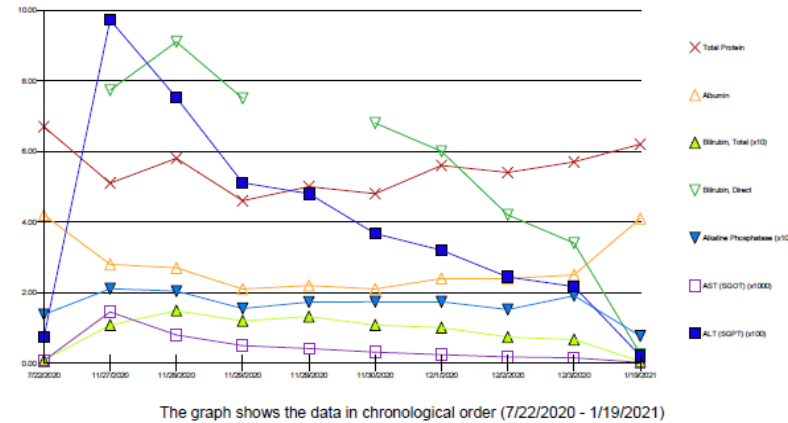


Figure 1: Liver biochemistry trend pre/post Drop-It exposure.



Figure 2: Marketing materials for “Drop-It” dietary supplement.

Case Description

and external pathologists showed “cholestatic hepatitis consistent with DILI”; “mild steatosis, macrovesicular and microvesicular”; and grade 1 hepatocellular hemosiderosis. A second external pathologist found “no ballooning degeneration”, making alcoholic hepatitis less likely, and agreed that “consideration for a drug or toxin related injury may be given”. He received N-acetylcysteine infusion and supportive care. On day 6, he was discharged with alcohol counseling and Drop-It cessation. Six weeks later, his labs normalized to AST/ALT 22/21, ALP 77, and TB 0.5.

Discussion

Given the temporal association between drug exposure and acute liver injury, then resolution of injury with cessation, it seems highly likely that Drop-It was the offending agent. Whether idiosyncratic or intrinsic DILI occurred to Drop-It’s listed ingredients, or to undisclosed inactive agents, remains unclear. This first report of DILI due to Drop-It underscores caution in monitoring herbal and dietary supplement use, the second most common cause of DILI in the US.

References

Chalasanani NP, Maddur H, Russo MW, Wong RJ, Reddy KR. ACG Clinical Guideline: Diagnosis and Management of Idiosyncratic Drug-Induced Liver Injury. *Am J Gastroenterol.* 2021 May 1;116(5):878-898. PMID: 33929376.