

The Cost of Sobriety: Disulfiram-induced Acute Liver Failure

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Learning Objectives

- Recognize drug-induced hepatotoxicity as a leading cause of acute liver failure (ALF).
- Identify hepatotoxicity as an uncommon but serious adverse reaction to disulfiram in cirrhotic patients

Introduction

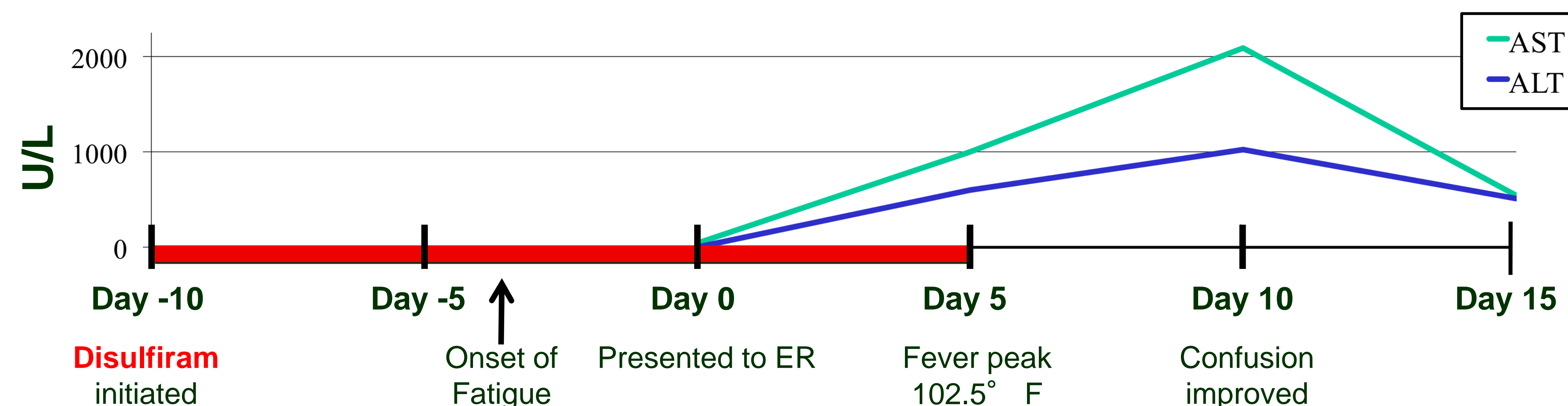
- Disulfiram is a well-established medication for treating outpatient alcohol dependence.
- In altering the metabolism of alcohol, disulfiram induces adverse reactions including palpitations, nausea/vomiting, blurred vision, and diaphoresis with a goal of motivating the patient to decrease and/or avoid alcohol use.

Patient Presentation

72 year old white male with compensated alcoholic cirrhosis presented with 2 days of fatigue and fever.

- Review of systems without chills, shortness of breath, chest pain, or abdominal pain.
- Last drink was the evening prior to presentation
- No acetaminophen use
- Disulfiram 500mg daily started 10 days prior to presentation as an alcohol cessation tool

Disease Course



Discussion

- ALF secondary to disulfiram has been documented in case reports with a dose dependent relationship.
- Age and underlying cirrhosis may be risk factors for hepatotoxicity.
- Case reports support a hypersensitivity-mediated component, with common signs and symptoms of rash, fever and/or peripheral eosinophilia.
- If disulfiram causes jaundice, mortality is thought to be as high as 15-20%.

Take Home Points

- Drug-induced ALF accounts for up to 52% of ALF cases in the United States alone, and disulfiram is a rare cause.
- Alcoholics may have undiagnosed cirrhosis putting them at higher risk for drug-induced ALF such that certain medications should be used with great caution.

References

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Initial Work Up

~~12.4~~
~~8.0~~ ~~96.7~~
~~37~~

MCV: 107
 20% Eosinophils

Alk Phos: 105
 Total Protein 6.8
 Albumin: 2.5
 Total Bilirubin: 1.8

AST: 47
 ALT: 35
 INR: 1.5

134	105	14	98
3.7	22	1.2	

Negative infectious work up including chest x-ray, blood and urine cultures

ALF Work Up

1- History and Medication Review

2- Labs:

- Acetaminophen Level <10
- Ethanol level <10
- Viral Hepatitis Panel
 - HBc IgM negative
 - HBs Ag negative
 - HAV IgM negative
 - HCV IgG negative

- Autoimmune markers

ANA, ASMA, AMA normal

- Lipase 30 units/L

3- Imaging:

- Abdominal Ultrasound

Cirrhosis and patent vessels

Drug Induced ALF

Most common causes:

- Acetaminophen: denied
- Antibiotics: started after admission

Less common causes:

- Allopurinol x years
- Atorvastatin x years
- Aspirin x years
- Disulfiram x days

Disulfiram discontinued and patient improved.