A Case of Presumed Alcoholic Hepatitis: Deadly Diagnosis and Combating Cognitive Biases

Catherine Edgell, M.D., Andrew Seaman, M.D.

Department of Internal Medicine

OREGON HEALTH & SCIENCE UNIVERSITY

U.S. Department of Veterans Affairs
Veterans Health Administration
VA Portland Health Care System

Introduction

- Reviewing a patients' previous records is a common and useful way of obtaining medical history, however, if these records contain inaccuracies subsequent fatal errors may occur.
- Research has shown that cognitive biases may be associated with diagnostic inaccuracies as well as management and therapeutic errors. Three types of commonly recognized biases; information, anchoring, and representative, lead to these errors.

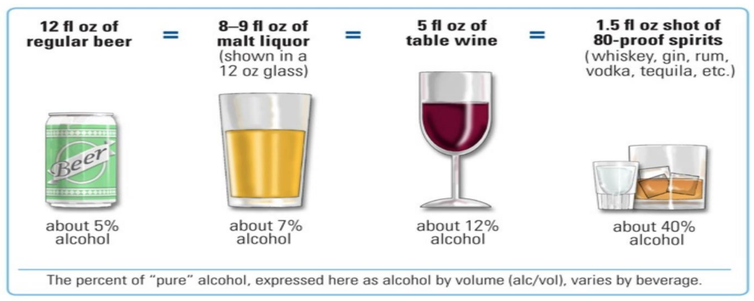
Case Description

- A 43-year-old **Native American woman** of **low socioeconomic status with a high school education** presented with confusion and jaundice; found to have acute liver injury and transferred to our hospital for further management.
- Based on presenting clinical features, **a reported chart history of alcohol use disorder (AUD),** and ultrasound demonstrating underlying cirrhosis, a presumptive diagnosis of **acute viral hepatitis on severe alcoholic cirrhosis was made**.
- **Findings inconsistent with this diagnosis included negative viral serologies, patient's low self-reported alcohol usage, negative ethanol level and absence of withdrawal.**
- Hepatology was consulted, and **despite these inconsistencies,** alcoholic hepatitis was still considered most likely, and she was not considered for a liver transplant due to **chart notation** of **"active alcohol use".**
- A biopsy was planned to clarify etiology of her cirrhosis.
- After several days, autoimmune work up resulted and revealed anti-nuclear antibody positive at 1:2500 consistent with autoimmune hepatitis.
- Given that autoimmune hepatitis was most likely and that biopsy was pending, history was clarified.
- After review, notes were changed to reflect the fact that, although patient's alcohol consumption of a nightly shot of tequila amounted to risky use, the patient did not meet DSM-5 criteria for AUD.
- Liver pathology showed grade 3-4 fibrosis consistent with autoimmune hepatitis. Steroids were started, but after brief improvement she developed both hepatorenal syndrome and diffuse alveolar hemorrhage.
- Given multiorgan involvement rheumatology offered unifying diagnosis of active systemic lupus erythematosus.
- Treatment for multiorgan SLE was initiated and she was listed as a transplant candidate; however, she developed progressive multi-organ failure, rapidly decompensated, and died.

Defining Biases

Type of Bias	Definition	Example in our case
Information	**Error in approach for collecting data**	**Reviewing previous records and "copying forward" a diagnosis such as alcohol use disorder without corroborating history**
Early anchoring	**Relying too heavily on the first piece of information offered**	**Early assumption of viral hepatitis / alcoholic cirrhosis despite inconsistent findings**
Representativeness	**Presumption that once people or events are categorized, they share all the features of others members in that category**	**Cultural stereotyping of Native Americans, people of low socioeconomic status, and of lower education as being at high risk of alcohol use disorder**

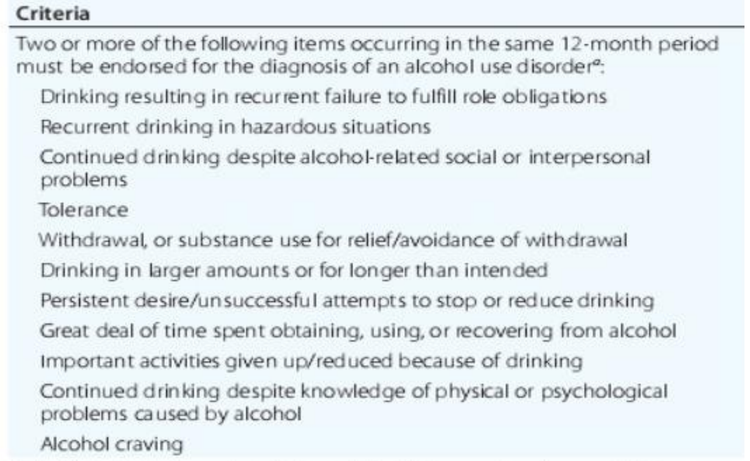
Defining Drinking



Alcohol Risk Categories:

MODERATE	**Relatively low risk of developing an alcohol problem**	**Women: No more than one drink per day.**	**Men: No more than two drinks per day.**
HEAVY	**Significantly increased risk of developing alcohol problems**	**Women: More than seven drinks per week or three drinks per occasion.**	**Men: More than 14 drinks per week or four drinks per occasion.**
BINGE	**Drinking at a single occasion; significantly increases risk of developing alcohol problems**	**Women: Four or more drinks within two hours.**	**Men: Five or more drinks within two hours.**

Alcohol Use Disorder (DSM 5) :
- A chronic relapsing brain disease characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences. AUD can range from mild to severe, and recovery is possible regardless of severity. Must meet 2/11:



Discussion

- Autoimmune hepatitis is a disease with a >3:1 female predominance presenting in middle age, and should have been initially considered in this patient.
- Several factors prevented consideration of autoimmune hepatitis early in her course and delayed transplant listing, ultimately leading to her death
- These factor included:
  - 1) misunderstanding/misuse of definitions of normal-risky alcohol usage vs alcohol use disorder
  - 2) information bias, or error in approach for collecting data, by "copying forward" a diagnosis such as alcohol use disorder without corroborating history
  - 3) early anchoring bias, relying too heavily on the first piece of information offered, on alcoholic hepatitis based upon chart history of alcohol abuse without completely corroborating history
  - 4) representativeness bias, the presumption that once people or events are categorized, they share all the features of others members in that category, due to cultural stereotyping of Native Americans, as well as those of low socioeconomic status or low education level as being at high risk of alcohol use disorder
- This case illustrates the importance of:
  - understanding terminology
  - clarifying and corroborating history
  - being mindful of potential biases and recognizing the negative impacts that these can have on a patient's care and health outcomes

References

1. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders,* May 2013
2. Fit Z, G, and Hurst, S. "Implicit Bias in Healthcare Professionals: A Systematic Review." *BMC Medical Ethics* 18 (2017): 19.
3. Kkasper , D. L., & HRRISION, , T. R. *Harrison's principles of internal medicine*. New York, McGraw-Hill, Medical Pub. Division, 2003
4. Saposnik et al. *BMC Medical Informatics and Decision Making (*2016) 16:138 https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-facts-and-statistics
5. CDC, Liver Disease: Fast facts, https://www.cdc.gov/nchs/fastats/liver-disease.htm, accessed September 2017