Alcohol Withdrawal

Some Strategies in Diagnosis and Treatment

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Historical and cultural aspects of man's relationship with addictive drugs
With the colonial era, industrial revolution, and international trade, addiction became a global public health problem.

Crocq MA.
Dialogues Clin Neurosci. 2007 Dec; 9(4): 355–361.

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How long has it been around?

Thousands of years but that was wine and beer.

The construction of stills, associating an alembic to distill a liquid with arrangements to condense the vapor produced, seems to have started only in the 11th or 12th century around the medical school of Salerno in Italy.

A History of Alcoholism

Jean-Charles Sournia 1990, Blackwell Pub

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What is alcohol withdrawal(W/D)?

There is an up-regulation of inhibitory neuro-receptors from daily alcohol use. This is the GABA (Gamma Aminobutyric Acid) system.

When alcohol use is curtailed there is a decrease in this inhibitory effect. Subsequently there is hyperactivity of the central nervous system.

It's important to understand that there are hemodynamic symptoms associated with alcohol W/D such as increased blood pressure and heart rate.

Delirium tremens is a severe outcome of alcohol habituation/cessation with profound hemodynamic instability.

Autonomic hyperactivity predominates

Other characteristic manifestations of the major syndrome are over activity of the autonomic nervous system (fever, tachycardia and severe diaphoresis), and increased psychomotor activity, manifested by restlessness, tremor, jactitations and vivid hallucinations.

Jactitation: the restless tossing of the body in illness. the twitching of a limb or muscle.

Acute Alcohol Withdrawal Syndrome in The biology of alcoholism

Milton M. Gross, Eastlyn Lewis, and

John Hastey

The literature is pretty consistent

Johnson (1961) estimated that less than 1 % of the alcoholics develop delirium tremens.

Feuerlein (1967) estimates that delirium tremens occurs in approximately

3-15% of the alcoholics. Among alcoholics who were hospitalized, a fairly uniform incidence of 5% who developed delirium tremens has been reported

(Victor and Adams, 1953; Kaim *et a/.,* 1969; Marvin, 1970).

NJM 2014

About 50% of persons with alcohol-use disorders have symptoms of alcohol withdrawal when they reduce or discontinue their alcohol consumption; in 3 to 5% of these persons, grand mal convulsions, severe confusion (a delirium), or both develop.

Recognition and Management of Withdrawal Delirium (Delirium Tremens)

Marc A. Schuckit, M.D.

N Engl J Med 2014; 371:2109-2113November 27, 2014DOI: 10.1056/NEJMra1407298

Alcohol Use Disorder isn't alcohol withdrawal.

11 symptoms most of which are behavioral. These 2 are physiologic:

Tolerance, as defined by either of the following: a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect b) A markedly diminished effect with continued use of the same amount of alcohol.

Withdrawal, as manifested by either of the following: a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal) b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

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Pharmacologic Treatment

JAMA. 1997 Jul 9;278(2):144-51.

Pharmacological management of alcohol withdrawal. A meta-analysis and evidence-based practice guideline. American Society of Addiction Medicine Working Group on Pharmacological Management of Alcohol Withdrawal.

Mayo-Smith MF.

CONCLUSIONS: Benzodiazepines are suitable agents for alcohol withdrawal, with choice among different agents guided by duration of action, rapidity of onset, and cost.

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Symptom based pharmacological treatment

- There are lots of rating scales
- They include lots of symptoms thought to best reflect the alcohol withdrawal syndrome
- We use the Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar)

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CIWA – Ar categories

Agitation (0 – 7)

Anxiety (0 – 7)

Auditory Disturbances (0 – 7)

Clouding of Sensorium (0 – 4)

Headache (0 – 7)

Nausea/Vomiting (0 – 7)

Paroxysmal Sweats (0 – 7)

Tactile Disturbances (0 – 7)

Tremor (0 – 7)

Visual Disturbances (0 – 7)

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CIWA reliability and specificity

- This tool was tested on patients KNOWN to be in alcohol withdrawal. It wasn't meant to be a diagnostic tool
- The symptoms in the tool can caused by lots of things e.g. alcohol withdrawal or hangover?

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The correct diagnosis

Dolman JM and Hawkes ND. Combining the AUDIT questionnaire and biochemical markers to assess alcohol use and risk of alcohol withdrawal in medical inpatients **Alcohol** *2005 Aug 15.*

Conclusions: This hypothesis-generating study suggests that history of sever alcohol withdrawal syndrome (SAWS) is the only factor strongly predictive of SAWS. Surrogate measures of recent heavy alcohol consumption including low initial platelet count, serum potassium, and high GGT are associated with SAWS but the difference is unlikely to be clinically significant. Of the 874 patients screened using the AUDIT, 98 (11%) screened positive of whom 17 (2% of the 874) experienced clinically significant alcohol withdrawal symptoms, when using serial CIWA-Ar.

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Diazepam, Lorazepam or phenobarbital

- Loading is an effective form of treatment. Valium and phenobarbital have long t1/2 (lipophilic) so they self taper.
- IV works faster so it's easier to see how the patient tolerates a given dose. Nothing can replace observation or seeing lots of patients.
- Lorazepam is considered the benzodiazepine best tolerated by patients with advanced liver disease.

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It's best to treat early.

- Once the decision is made to treat withdrawal use enough of any of the above agents to quell the symptoms
- If the patient is still tremulous, tachycardic and awake give more.
- Examples include phenobarbital 130 mg IV, Valium 20 mg IV every 15-30 minutes until desired effect.

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Side effects of benzodiazepines

- Delirium/encephalopathy
  - Amnesia
  - Confusion
  - Looks like intoxication
- Somnolence/lethargy
  - That's why they're called hypnotics
  - Possible increased risk for aspiration PNA?

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Withdrawal or psychosis or delirium?

- If the patient thinks they are not in Kansas anymore but they have a normal heart rate and BP, might not be withdrawal. We would not give more benzos.
- It is uncommon for someone in their late teens or early 20 to have significant alcohol withdrawal.

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What is the patients drug of choice ?

- People in opiate W/D often drink to stave off OPIATE W/D. Clarify goals of treatment.
- If the patient has a urine tox + for cocaine or amphetamines his sx may not be D/T alcohol withdrawal.
- Benzodiazepine W/D can look like alcohol W/D

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Summary

- We treat alcohol withdrawal to prevent life threatening sequelae and to humanly relieve the W/D sx. People can't stop drinking if they suffer with W/D.
- The CIWA is often used to satisfy "due diligence" when there is concern for possible alcohol withdrawal. Lots of things can cause an elevated CIWA score. We sometimes order CIWAs but don't order PRN benzodiazepines.
- Benzodiazepines can cause harm but are great at treating alcohol withdrawal. They should be used for the shortest duration possible.

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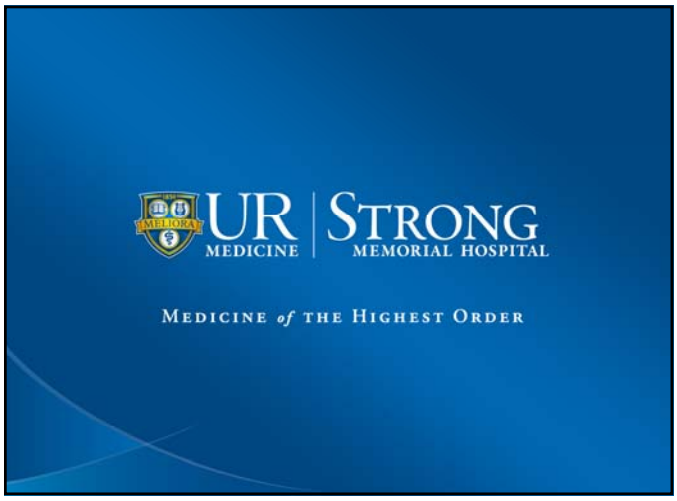
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