DELIRIUM TREMENS

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INTRODUCTION

- Alcohol use disorders can decrease life span and impair social functioning
- 50 % alcohol use disorders → alcohol withdrawal
- Alcohol withdrawal can cause delirium (3–5%) → delirium tremens

PATHOPHYSIOLOGY

- Alcohol is a CNS depressant
- Increase GABA release in the brain with prominent effects on GABA type A (GABAA) receptors, and it inhibits postsynaptic N-methyl-d-aspartate glutamatereceptor activity.
- Brain can adapt with repeated exposure

WITHDRAWAL SYMPTOMS

- Insomnia
- Anxiety
- Increased pulse and respiration rates, body temperature, and blood pressure
- Hand tremor
- Because of the short action of ethanol (beverage alcohol), withdrawal symptoms usually begin within 8 hours after blood alcohol levels decrease, peak at about 72 hours, and are markedly reduced by day 5 through 7 of abstinence.

DELIRIUM TREMEN

Table 2. DSM-5 Criteria for Withdrawal Delirium (Delirium Tremens).*

Criteria for alcohol withdrawal

Cessation of or reduction in heavy and prolonged use of alcohol

At least two of eight possible symptoms after reduced use of alcohol:

- Autonomic hyperactivity
- Hand tremor
- Insomnia
- Nausea or vomiting
- Transient hallucinations or illusions
- Psychomotor agitation
- Anxiety
- Generalized tonic–clonic seizures

Criteria for delirium

Decreased attention and awareness

Disturbance in attention, awareness, memory, orientation, language, visuospatial ability, perception, or all of these abilities that is a change from the normal level and fluctuates in severity during the day

Disturbances in memory, orientation, language, visuospatial ability, or perception

No evidence of coma or other evolving neurocognitive disorders

* The criteria are based on the *Diagnostic and Statistical Manual of Mental*

ALCOHOL WITHDRAWAL ASSESTMENT

Table 1. Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised.[a]

Components of Scale	Most Severe Manifestations
Nine items scored on a scale ranging from 0 (no symptoms) to 7 (most severe symptoms)	
Nausea or vomiting	Constant nausea with vomiting
Tremor	Severe tremor, even with arms extended
Paroxysmal sweats	Drenching sweats
Anxiety	Acute panic
Tactile disturbances (itching, numbness, sensation of bugs crawling on or under the skin)	Continuous hallucinations
Auditory disturbances (sensitivity to sound, hearing things that are not there)	Continuous hallucinations
Visual disturbances (sensitivity to brightness and color, seeing things that are not there)	Continuous hallucinations
Headache, sensation of a band around the head	Extremely severe headache
Agitation	Pacing during most of interview with clinician or thrashing about
One item scored on a scale ranging from 0 (no symptoms) to 4 (disoriented with respect to place or person)	
Orientation and clouding of sensorium	

[a] Data are from Kessler and O'Connor.[a] Total scores on this clinician-rated, 10-item scale range from 0 to 67, with scores

TREATMENT

Provide care in an inpatient setting, preferably an intensive care unit.

Perform a workup to rule out medical conditions and measure values such as the levels of electrolytes and pancreatic enzymes, hematocrit, and platelet counts; perform liver-function tests.

Provide supportive care by monitoring vital signs frequently (e.g., every 15–30 min) in a quiet, well-lit room. Reorient patient to time, place, and person.

Administer thiamine intravenously at a dose of 100 mg once or twice a day for 3 days; monitor patient for overhydration.[4,5,6]

Provide medications to control agitation, promote sleep, and raise the seizure threshold.

Administer primary pharmacotherapy with the use of benzodiazepines, preferably intravenously, in doses high enough to achieve a lightly dozing but still arousable state, while monitoring the patient's vital signs until delirium abates (approximately 3 days).[4] The dose on day 1 is the amount needed to control target symptoms (e.g., diazepam at a dose of 15 mg).

Examples of diazepam regimens[4,5,6,7]:

Regimen 1[7]: administer 10–20 mg intravenously or orally every 1–4 hr, as needed.

Regimen 2[4]:

Begin treatment with 5 mg intravenously (2.5 mg/min).[4]

If needed, repeat 10 min later.

If needed, administer 10 mg intravenously 10 min later.

If needed, administer 10 mg again 10 min later.

If needed, administer 20 mg 10 min later.

Continue to administer 5–20 mg/hr, as needed.

Examples of lorazepam regimens[4,7]:

Regimen 1[4]: administer 8 mg intravenously, intramuscularly, or orally every 15 min, as needed. After the patient has received 16 mg, if delirium is still severe, administer an 8-mg bolus intravenously. Then administer 10–30 mg/hr.

Regimen 2[4]:

Administer 1 to 4 mg intravenously every 5–15 min,[4] as needed.

Alternatively, administer 1–40 mg intramuscularly every 30–60 min, as needed.

Continue dosing every hr as needed to maintain somnolence.

SUMMARY

- Alcohol withdrawal is a part of alcohol use disorders
- Mild to severe symptoms → delirium tremens
- IV Diazepam is the main treatment modality