Alcohol Withdrawal Syndrome (AWS): Recognition and Treatment

Presented By: Stephanie Zettner, MD and Yankel Girshman, DO

Conflict of Interest Disclosure

- We have no financial relationships to disclose.

How was alcohol withdrawal treated 100+ years ago?

A THERAPEUTIC NOTE: COLD AFFUSION IN DELIRIUM TREMENS.

By SIR WILLIAM BROADBENT, Bart., K.C.V.O., M.D., F.R.C.P., F.R.S.
Physician in Ordinary to H.M. the King.

A case of delirium tremens to which I was called by Dr. Lenton Heath gave me the opportunity of recommending a mode of treatment which I employed repeatedly many years since, and always with immediate success. I must have described it, but it does not seem to have found its way into the textbooks. The practice is cold affusion carried out in the following way: The patient is stripped naked and lies on a blanket over a waterproof sheet. A copious supply of ice-cold water is provided, and a large bath sponge dripping with the iced water is dashed violently on the face, neck, chest, and body as rapidly as possible. He is then rubbed dry with a rough towel, and the process is repeated a second and third time. The patient is now turned over, and the wet sponge is dashed on the back of the head and down the whole length of the spine two or three times, vigorous friction with a bath towel being employed between the cold water attacks. By the time the patient is dried and made comfortable he will be fast asleep.

Dr. Lenton Heath's patient was a young gentleman of about 30 addicted to alcohol. Under his influence and treatment he had abstained for some time, but had then given way, and after a week of continuous indiscriminate drinking had delirium tremens, or, perhaps more strictly, delirium ebriosum, since, with characteristic hallucinations, he was more violent and had less tremor than is usual in delirium tremens proper. A complication which almost precluded recourse to opiates or sedatives was the presence of a large amount of albumen in the urine.

The treatment was effectually carried out by Dr. Heath, with the anticipated result of sound refreshing sleep and speedy recovery. The albuminuria gradually disappeared.

I have employed cold affusion in this way even when there was extensive pneumonia with the delirium tremens. When the patient wakes up the tremor is gone, the relaxed perspiring skin is warm and dry, and the weak flickering pulse has recovered tone.

In rheumatic and enteric hyperpyrexia the effect of the cold bath is not simply due to the abstraction of heat. The graduated bath has much less effect than the plunge into cold water, and may have no effect at all unless cold affusion is applied to the head. It is not easy in domestic practice to give a cold bath in these cases, and may be impossible. Affusion by means of a bath sponge followed up by a wet sheet may meet the emergency.

The Scope of the Problem:

- Alcohol use disorder has been reported in **20% to 50%** of hospitalized patients
- Up to **50%** of hospitalized patients with alcohol use disorder will experience AWS
- **10%** of patients in AWS will suffer seizures
- **5%** of patients in AWS will suffer DT’s

How do we identify problem drinking?

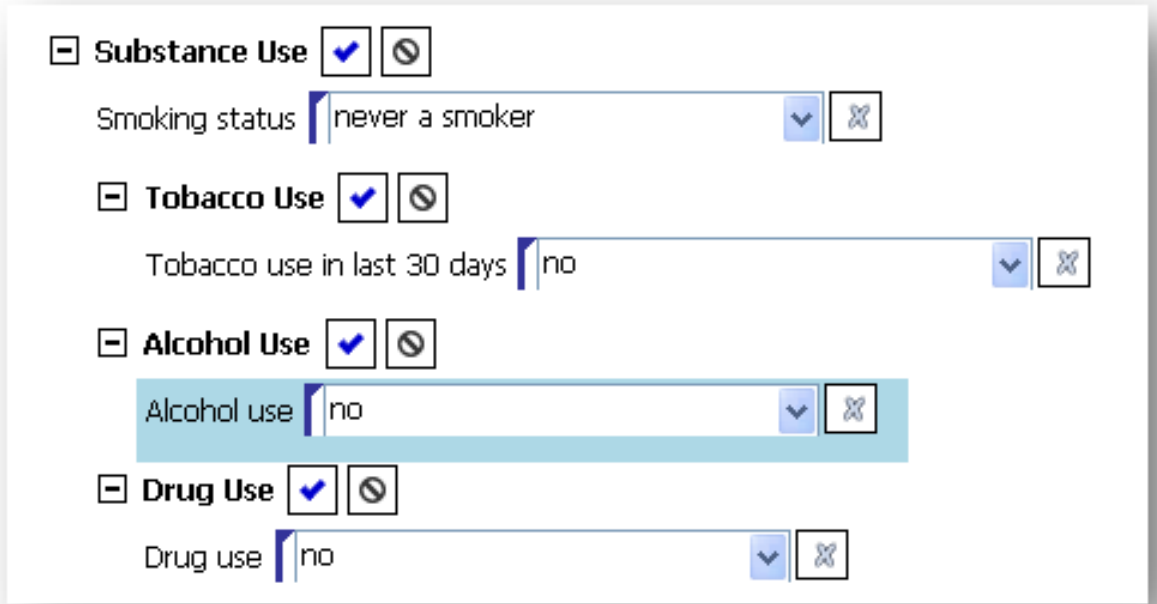
- **Multiple** screening options
- Most focus on **quantification** of alcohol consumption, both on a weekly and binge basis
- **Interference** with daily activities, responsibilities, and personal relationships
- **Comorbid substance use/abuse**

Risk factors for severe withdrawal

- **Previous** withdrawal episodes
- Comorbid use of other **CNS depressants**/other substances
- Elevated **BAL** on admission
- Increase in **HR** or **blood pressure**
- Advanced age **(>65)**
- Moderate **withdrawal** on admission
- Medical or surgical **illness**
- Severe **alcohol dependence**
- Abnormal LFTs
- Recent **intoxication**
- **Male** gender

HHS ADMISSION HISTORY

As part of the **HHS Admission History**, the alcohol screening should be answered under the following conditions:



When alcohol use is answered "yes" then expand out

Screened for alcohol dependence and CIWA (make mandatory)

Yes-in HED

No

AUDIT scale

(Hover: A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol dependence.)

- ☐ <8 = interventions not warranted
- ☐ 8 to 12 = harmful drinking
- ☐ >13 women = alcohol dependence
- ☐ >15 men = alcohol dependence

Interventions for Scores greater than 8:

- ☐ CIWA screen performed
- ☐ MD notified
- ☐ Increased monitoring
- ☐ Alcohol withdrawal protocol initiated
- ☐ Seizure precautions initiated

Response intvn:

- ☐ Improved
- ☐ Resolved
- ☐ No change
- ☐ Worsened
- ☐ other

When will withdrawal start?

Table 1 Signs and symptoms of alcohol withdrawal syndrome, presented per stage [59, 73]

Stage	Time of onset after last drink (h)	Signs and symptoms
I: minor withdrawal symptoms	6–12	Tremors, diaphoresis, nausea/vomiting, hypertension, tachycardia, hyperthermia, tachypnea
II: alcoholic hallucinosis	12–24	Dysperceptions: Visual (zooscopies), auditory (voices) and tactile (paresthesia)
III: alcohol withdrawal seizures	24–48	Generalized tonic–clonic seizures (with short or no postictal period)
IV: delirium tremens	48–72	Delirium, psychosis, hallucinations, hyperthermia, malignant hypertension, seizures and coma

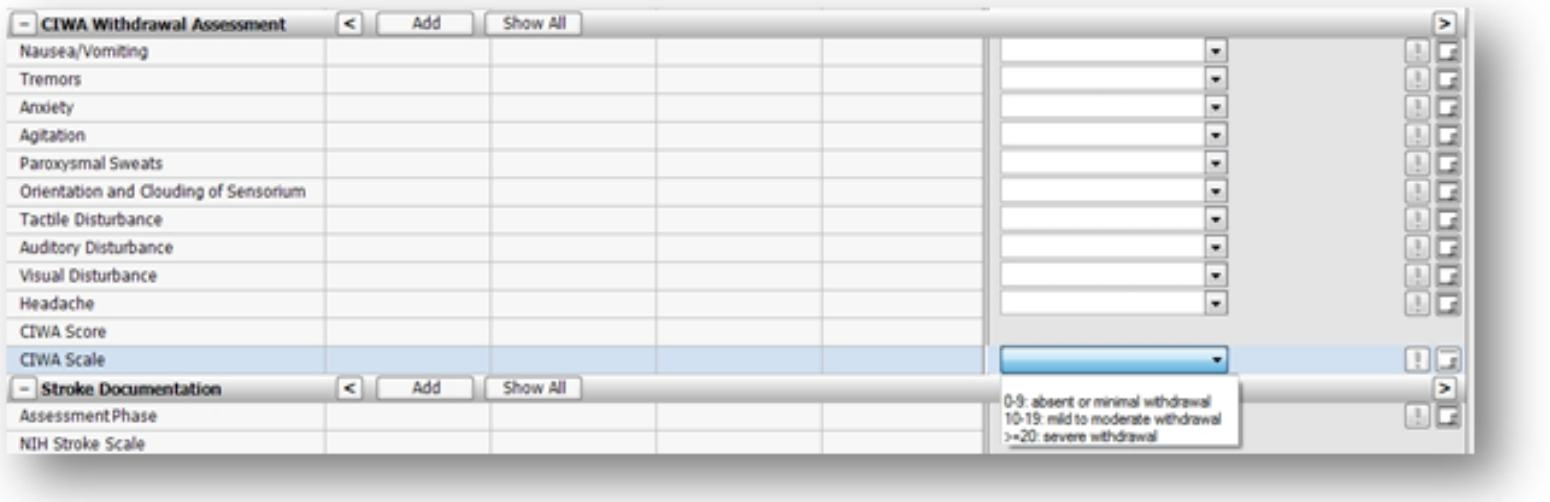
How do I monitor a patient's symptoms during withdrawal?

Table 2 Clinical Institute Withdrawal Assessment for Alcohol—revised (CIWA-Ar) scale

Clinical Institute Withdrawal Assessment for Alcohol revised	
Symptoms	**Range of scores**
Nausea or vomiting	0 (no nausea, no vomiting): 7 (constant nausea and/or vomiting)
Tremor	0 (no tremor): 7 (severe tremors, even with arms not extended)
Paroxysmal sweats	0 (no sweat visible): 7 (drenching sweats)
Anxiety	0 (no anxiety, at ease): 7 (acute panic states)
Agitation	0 (normal activity): 7 (constantly thrashes about)
Tactile disturbances	0 (none): 7 (continuous hallucinations)
Auditory disturbances	0 (not present): 7 (continuous hallucinations)
Visual disturbances	0 (not present): 7 (continuous hallucinations)
Headache	0 (not present): 7 (extremely severe)
Orientation/clouding of sensorium	0 (orientated, can do serial additions): 4 (disorientated for place and/or person)

Modified from Sullivan et al. [36]

CIWA Withdrawal Assessment



The **CIWA scale** drop down should be the following:

0-8 absent or minimal withdrawal
9-15 mild to moderate withdrawal
>15 severe withdrawal

ADD THE FOLLOWING

Interventions

- ☐ MD notified
- ☐ Increased monitoring
- ☐ Alcohol w/d precautions
- ☐ Trnsfrd to increased level of care

Response intvn:

- ☐ Improved
- ☐ Resolved
- ☐ No change
- ☐ Worsened
- ☐ other

Which treatment protocols are available for treating AWS?

- **Loading dose-** Large initial dose of BZDs with the goal of inducing sedation with auto-taper.
- **Symptom-triggered-** Dosage adjusted according to CIWA score (symptoms).
- ***Fixed dose-** Moderate initial dose, with tapering, and additional PRN doses. May restart taper if necessary.

Is one protocol better than the other?

- **Symptom-triggered therapy** has been shown to reduce total benzodiazepine consumption and treatment duration in comparison with fixed dose in patient's with a **CIWA score (<8) or without the risk factors of previous DT's, coma, or seizures.**
- **For those with a CIWA score > than 8 or significant risk factors:**
- **Loading-dose** approach involves a higher risk of toxicity, **but the benefit may outweigh the risk**.
- **Fixed dose** approach is **highly effective**, and can be performed in patients at risk for **severe AWS**.

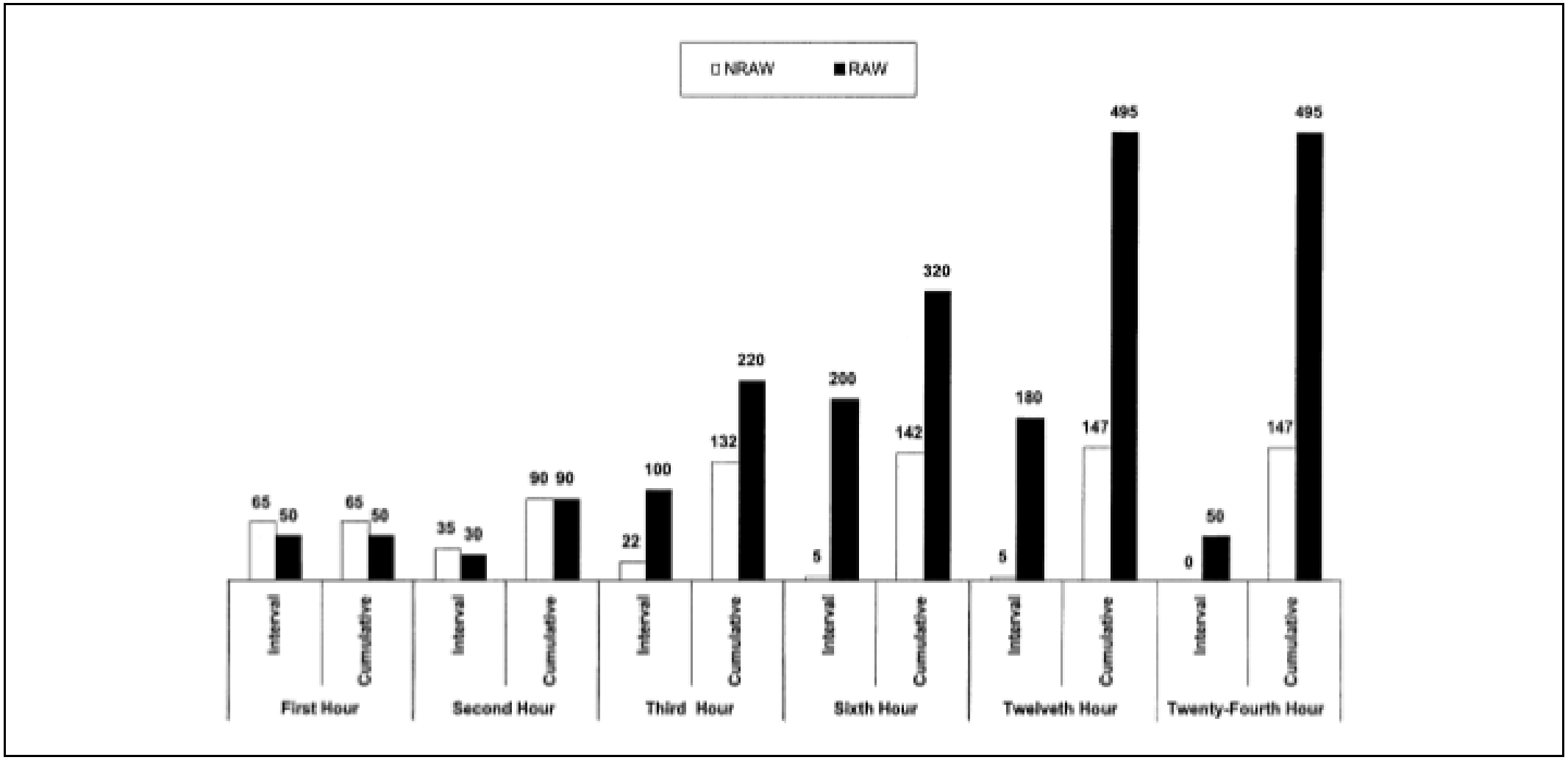


Figure 1. Median mg of Diazepam Doses

What about management of AWS at BRRH?

- We currently dose patients with **2 mg of Ativan q 6 hours** standing
- This is **much, much less** than the protocols in recent literature
- The new protocol **stratifies** patient treatment based on **CIWA score**.
- CIWA score **< 8** will be treated with **PRN** medication
- CIWA scores of **8-15** will receive standing dose therapy or **low grade fixed dose taper**
- CIWA **> 15** will receive medication at a higher frequency (q 4 hrs), followed by **fixed dose taper**
- **New protocol is available now!!!**
- This is a **multidisciplinary** effort that is based on the latest evidence available

MINI OUTLINE CONTENTS

CIWA Protocol for MILD Withdrawal (CIWA 1-8) >>

AGE LESS THAN 65

1. Lorazepam (Ativan) 2mg oral IV 6 hrs PRN CIWA SCALE 1-8 x 3 days

AGE GREATER THAN 65

2. Lorazepam (Ativan) 1mg IV q6hrs PRN CIWA SCALE 1-8 x 3 days

---

CIWA Protocol for MODERATE Withdrawal>>

(MD to choose Lorazepam OR Librium)

ATIVAN IV (72 Hour Taper)

1) Lorazepam (Ativan) 2mg IV q 6 hrs x 4 doses per CIWA protocol HOLD for RASS -3 through -5
   +Lorazepam (Ativan) 1mg IV q 6 hr x 4 doses per CIWA protocol HOLD for RASS -3 through -5
   +Lorazepam1mg IV q 12h x 2 doses per CIWA protocol HOLD for RASS -3 through -5
   +Lorazepam (Ativan) 2mg IV q 4 hrs for CIWA ≥9 per CIWA protocol and hold for POSS scale ≥3 HOLD for RASS -3 through -5

LIBRIUM PO (72 Hour Taper)

2) Chlordiazepoxide (Librium) 50 mg oral q 6hr x 4 doses per CIWA protocol HOLD for RASS -3 through -5
   +Chlordiazepoxide (Librium) 25mg oral q 6 hrs x 4 doses per CIWA protocol HOLD for RASS -3 through -5
   +Chlordiazepoxide (Librium) 25 mg oral q12 hrs x 2 doses per CIWA protocol HOLD for RASS -3 through -5
   +Chlordiazepoxide (Librium) 50mg oral q 4 hrs PRN CIWA ≥ 8 per CIWA protocol and hold for POSS scale ≥3, HOLD for RASS -3 through -5

CIWA Protocol for SEVERE Withdrawal>>

SEVERE CIWA SCALE ≥ 15 (96 Hour Taper)

3) Lorazepam (Ativan) 2mg IV q 4hrs x 6 doses per CIWA protocol HOLD for RASS -3 through -5
+ Lorazepam (Ativan) 2mg IV q 6 hrs x 4 doses per CIWA protocol HOLD for RASS -3 through -5
+ Lorazepam (Ativan) 1mg IV q 6 hrs x 4 doses per CIWA protocol HOLD for RASS -3 through -5
+ Lorazepam (Ativan) 1mg IV q 12 hrs x 2 doses per CIWA protocol HOLD for RASS -3 through -5
+Lorazepam (Ativan) 2 mg IV/PO q 4 hrs for agitation/anxiety. per CIWA protocol HOLD for RASS -3 through -5 or PASS ≥3

Why are benzodiazepines (BZD's) the gold standard for treatment of AWS?

- Proven **efficacy** in preventing complicated AWS
- **Decreased rates** of seizures, DT's, and mortality risk
- **First** choice for treatment in the US
- Available in: **PO, IM, IV**
- **$GABA_A$** stimulation
- **No clear superiority** of one BZD over another, although there is more evidence for **long-acting BZD's**
- In **advanced liver disease** lorazepam or oxazepam are preferred

Which BZD's are available for the treatment of AWS?

Table 5 Pharmacokinetic characteristics of different benzodiazepines used to treat alcohol withdrawal syndrome [21, 53, 60]

Drug	Half-life	Active metabolites	Metabolism	Excretion
Diazepam	20–80 h (metabolites 30–100 h)	Yes	Hepatic	Hepatic: urinary (metabolites)
Chlordiazepoxide	5–30 h (metabolites 30–200 h)	Yes	Hepatic	Hepatic: urinary (metabolites)
Lorazepam	10–20	No	Hepatic	Urinary, fecal
Oxazepam	10–20	No	Hepatic	Urinary
Midazolam	2–6	Yes	Hepatic, gut	Urinary

BZD dosing equivalents

drug	comparative dose
diazepam	5mg
alprazolam	0.5mg
clonazepam	0.25mg
lorazepam	1mg
chlordiazepoxide	25mg
temazepam	10mg
estazolam	1mg
triazolam	0.25mg

What happens when the patient doesn't respond to therapy?

- **Barbiturates** or **propofol** may need to be used
- Barbiturates require **close monitoring**
- Propofol is indicated in the **ICU setting**
- Barbiturates work in **synergy** with BZD's on the **$GABA_A$** receptor
- **Propofol** antagonizes the **NMDA** receptor, stimulates the **$GABA_A$** receptor
- **Propofol** is useful in **severe DT's** with poor control with high doses of BZD

What about other classes of drugs for AWS?

- Alpha agonists, B-blockers, and neuroleptics are **adjunctive treatments** for AWS,
- **Carbamazepine** has been shown to have **some** GABAergic activity
- **Valproate** has a **dose-dependent** effect in reducing AWS related seizures; **hepatotoxic!!!**
- **Sodium Oxybate** is currently under investigation
- **Baclofen** may be used for spasticity
- **Gabapentin** may be used as **adjunctive** treatment for **partial seizures**
- **Topiramate** may be used for **hyperactivity** and **anxiety**
- **Precedex** may mask withdrawal

Summary & Application

Gamma-AminoButryic Acid

GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA GABA

Definitions

- Delirium

  -Impaired orientation, attention, perception, etc.

- Delirium Tremens (DT's)

  -Delirium, hallucinations, (VS changes) from GABA withdrawal.

- Complicated Withdrawal (vs. Uncomplicated)

  -H/o Delirium Tremens OR Hallucinations OR Seizures (ICU?)

Alcohol Intoxication

≠

Patients are generally not honest about the actual amount they drink

(Cognition, Stigma, Shame, Guilty, Legal)

Alcohol Intoxication

How do we know

Ask Family !

Ask Family !!

Ask Family !!!

Ethanol level of “0” is not good news on a patient with h/o alcoholism.

Ethanol Level of “200” does not mean they are safe.

Alcohol Intoxication

Accidents

Suicide

(**RF for suicide)

Homicide

Psychosocial Suffering

Statistics

- **10%** (5-17%) will have a **seizure** (4pts).
- **5%** (5-10%) will have **Delirium Tremens** (2 pts).

Delirium Tremens has up to 5% (20%) mortality!

Fall
Psychosis
Agitation
Aspiration
Infections
Cardio-Pulmonary Disease (CVA, MI, AFIB)
Bleeding Disorders
Etc.
(Remember Delirium ~ Mortality)

Alcohol Withdrawal

- **Past = Future** complicated withdrawal

- Drinking in the morning is not a hobby!

- When missed in the hospital, it leads to:

Increased Morbidity

Increased Cost

Prolonged Length of Stay

Re-admissions

Is there an expected course

- DTs can happen in 6 hours or in 3 days
- DTs can last for 5-10 days

- Benzodiazepines + HTN/HR Rx mask or alter the course.
- What about the Percocet, heroin, cocaine, methadone, cannabis, amphetamines that came back positive? Withdrawal is NOT FATAL.

CIWA Scale & Its Limitations

Calculated CIWA Score = Severity Now (‘snapshot’)

Complicated Withdrawal History = Severity Later

CIWA Scale & Its Limitations

Limitations

Vitals are not part of the CIWA score.

Amount of **BZD** not incorporated.

Does not include **past risk**.

Does not account enough for **attention.**

(Outside of serial additions)

Only 3 **objective** findings.

(agitation, sweating, tremor)

Does not tell you **longitudinally** where your patient is.

(which side of the hill)

Assessment For Withdrawal NOW

1. History of Complicated Withdrawal?
2. Time of last drink?
3. CIWA Score?
4. Vital Signs?
5. Attention?
6. Hallucinations?
7. How much BZD already given?
8. Other substances? (BZD increase risk)
9. Precedex? B-Blockers?

Discharge & Outpatient Detox

- **Discharge-** Where in the course are they?

Day # + Risk (Complic. W/D + CIWA + VS + ATTN + Psychosis + BZD given + Drugs)

Safest Discharge = Day >3 + CIWA < 8 (mild) + Absence of High Risk Variables

Ethically Complex Discharge = Day 1-2 OR CIWA > 8 OR +High Risk Variables

Discharge & Outpatient Detox

- Outpatient Detoxification?
  - -No Acute/Chronic Illness
  - -CIWA <8-15
  - -Highly Involved Support System
  - -No h/o Withdrawal Seizure
  - -No DT’s
  - -No Suicide Risk
  - -No Other Drugs
  - -Likely will not drink again
  - -Taboo!

ER Dispositions

- Admit or Discharge
  - -Heavily Intoxicated Patient
  - -Patient in Withdrawal
  - -Intoxicated AND in Withdrawal
- Baker Acted Intoxicated Patient
  - -Ethical Considerations
  - -Stay in ER?
- ‘Frequent Flyer’ Who is Drinking Daily
  - -Appropriate Discharge/Disposition

Is Intubation a Risk?

- Overcoming the GABA Receptor

Treatment

- Loading Dose
- Symptom Triggered
- Fixed Dose
- **Beta-blockers?**
- **AED?**
- **Precedex?**
- **Other?**

Dose Adjustments

- Fixed Dose
- Symptom-Triggered
- Loading Dose

- **COUNT** THE TOTAL DAILY DOSE + **RISK** SEVERITY =DIVIDE INTO STANDING DOSE Q4-6 HOURS
- **DO NOT BE AFRAID TO RESTART THE TAPER**

Additional Considerations

- Is my patient depressed? (chicken or egg)
- Can they quit?
- If so, what is the best disposition?

  -Rehab, Detox, Other, Inpt. Vs Outpt.

Multiple Choice Questions

MCQ 1

A. 25yo M presents without psychiatric or medical history, with complaint of tremor to the ER. He denies drinking alcohol but his friend at bedside takes you to the side and reports that the patient has been drinking daily for 3 yrs. Upon further exploration, you discover that his last drink was 2 days ago and he has a h/o complicated withdrawal, needing ICU admission. CIWA Score = 14. Ethanol level=0. Patient denies suicidality or other drug use. What is the next best step?

a) Give IVF, counsel patient on drinking cessation and discharge home with resources.
b) Baker Act patient for safe placement.
c) Give Lorazepam 2mg PO x1, IVF, then discharge home.
d) Admit patient for acute alcohol withdrawal.
e) Give Librium 50mg PO x1, IVF, counseling, then discharge home.

MCQ 1

B. Your 25yo M patient with prior complicated withdrawal is now admitted to the general hospital for acute alcohol withdrawal. He is still in the ER (day 2 after last drink). Shortly after dispositioning him, his RN notifies you that his CIWA is now 16, his pulse is 115, SBP 160 and he is asking for “something” to help his symptoms. Next step is:

a) Give B-Blocker for elevated pulse and blood pressure, also calling ICU for a bed.
b) Order Geodon 10mg IM + Librium 50mg PO while patient is awaiting a bed.
c) Give IVF, thiamine and Ativan 2mg IV q6hrs PRN withdrawal symptoms.
d) Order Librium 50mg PO q6hrs PRN withdrawal.
e) Give IVF, thiamine and Ativan 2mg IV q6hrs standing + Ativan 2mg IV PRN withdrawal symptoms.

MCQ 1

C. You return the next day, day 3 after patients last drink, and your patient is on the Ativan 2mg IV q6hrs and has received an additional Ativan 2mg IV x4, giving a total of 16mg in the past 24 hours. His CIWA score has increased from 15 to 19 despite the Ativan, he now reports seeing curtains taking the shapes of “monsters”, he takes considerably long to answer questions and his VS show HR of 105 with SBP of 150. Next step is to:

a) Add Haldol 5mg PO BID for worsening psychosis.
b) Discontinue standing Ativan as he is becoming delirious from it and continue only Ativan 2mg IV PRN for withdrawal symptoms.
c) Increase Ativan to 3mg IV q6hrs and maintain Ativan 2mg IV q6hrs PRN withdrawal symptoms.
d) Switch to Librium 50mg q6hrs PO due to its longer acting metabolites to better control the withdrawal syndrome.
e) Consider adding Anti-epileptic + B-Blockade for breakthrough hyper-sympathetics and do not change current regimen.

MCQ 1

D. You return the next day, day 4 after patients last drink, and your patient is on his new regimen of Ativan 3mg IV q6hrs in addition to receiving Ativan 2mg IV x 2, given a total daily dose of 16mg. He looks 'much better', CIWA score seems to fall between 6-8, his VS have normalized and the patient is asking if he can leave to pay his bills. He is oriented x3. The next step is:

a) Stop the standing Ativan and observe with PRNS for another 24 hrs, then discharge home with resources.
b) Continue standing Ativan with PRNs and encourage the patient to stay for further treatment.
c) Give patient a prescription for Ativan, allowing him to self-taper at home over the next 10 days.
d) Decrease Ativan to 2mg IV q6hrs, maintain PRNs and continue hospitalization as patient improved.
e) Stop Ativan and discharge home without prescription for Ativan as his withdrawal has been treated.

MCQ 1

E. It is now day 6, patient has been decreased to ativan 2mg IV q6hrs, receiving a total daily dose of 8mg and PRNs were not required. His CIWA score is 4 for 2 days now, he is oriented x3, no psychosis and VS have stabilized. The next step is:

a) Stop the standing Ativan and observe with PRNS for another 24 hrs, then discharge home with resources.
b) Continue standing Ativan with PRNs and encourage the patient to stay for further treatment.
c) Give patient a prescription for Ativan, allowing him to self-taper at home over the next 10 days.
d) Decrease Ativan to 1.5mg IV q6hrs, maintain PRNs and continue hospitalization as patient improved.
e) Stop Ativan and discharge home without prescription for Ativan as his withdrawal has been treated.

MCQ 1

F. It is now day 8, patient has been decreased to ativan 1mg IV TID, receiving a total daily dose of 3mg and PRNs were not required. His CIWA score is 2, he is oriented x3, no psychosis and VS have stabilized. You stop the Ativan completely at 3mg feeling comfortable that at this dose, he will likely not withdraw further, and discharge the patient. His medical detox took 8 days on the medical floor. Considering the 8-day length of stay, you remember that:

a) A more rapid dose de-escalation of Ativan could have shortened the length of stay.
b) Discharging the patient sooner may have prevented the unnecessary hospital course requiring addictive sedatives.
c) Substance abuse is a lifelong illness, therefore generally being treatment-resistant and the patient will likely return next month for 'withdrawal'.
d) The patients history was devoid of seizures or DTs, therefore outpatient detox (BZD given by you) may have significantly shortened length of stay.
e) You treated a 3+ year problem in 8 days, prevented seizures, DTs, death, intubation, etc. (likely to recur based on history), finally giving the patient a chance towards sobriety.

MCQ 2

A. 66yo F, h/o HTN, presents with chest pain, found to have new onset Atrial fibrillation. On day 2 of admission, her mental status is reported as “confused”. It appears as though she is speaking to invisible people, itching her arms intermittently, and answers “Italy”, when asked the location. Attempts to control her heart rate and blood pressure are ongoing, requiring standing and PRN medications. Her pulse remains irregular and HR is measured at 105, BP is 150/95. Her daughter arrives on day 3 of admission and explains that her mother has a severe h/o alcoholism, drinking >2 liters of wine daily for 6 months. You return to re-examine the patient and notice that she has a significant tremor, complains of nausea, and is diaphoretic. The next best step is:

a) Titrate her blood pressure and Atrial fibrillation medications further hoping to optimize treatment.
b) Start Ativan 2mg IV q6hrs + 2mg IV q6hrs PRN withdrawal symptoms for Delirium Tremens.
c) Check EKG for QTc, then if <500msec, start haldol 2mg BID for associated psychosis, with haldol 2mg IM q6hrs for agitation
d) Start Librium 50mg q6hrs + Geodon 10mg IM q8hrs PRN breakthrough symptoms.
e) Give Ativan 2mg IV x 1, while considering additional medical work -up as CTH, EEG, TTE.

MCQ 2

B. 66yo F, h/o HTN, presents with chest pain, found to have new onset Atrial fibrillation.

Still on day 2, your cardiac and neurologic work-up is not significant. You are still concerned for the 'altered mental status', treatment resistant BP and pulse, and after calculating the CIWA score, you obtain a value of 22. Patient is attempting to climb out of bed, mittens are on and patient continues to be interacting with 'others who are not there'. Your next best step is:

a) Start Ativan 2mg IV q6hrs PRN withdrawal symptoms assuming her heart rate is likely elevated due to Afib and we already know she has a h/o hypertension.
b) Start Ativan 2mg IV q6hrs PRN withdrawal and call the ICU for worsening withdrawal.
c) Start Ativan 2mg IV q6hrs + 2mg IV q6hrs PRN withdrawal and call the ICU for worsening withdrawal.
d) Start Risperdal 1mg PO BID + 1mg PRN psychotic sx while normalizing vital signs and call the ICU for worsening psychosis.
e) Baker Act patient and transfer to psychiatric facility when medically Stablizied. She has severe psychosis and agitation therefore she is unable to care for herself in this state.

MCQ 2

C. 66yo F, h/o HTN, presents with chest pain, found to have new onset Atrial fibrillation.

You return on day 3, patient is in the ICU, intubated for severe agitation and inability to protect her airway. She is on Precedex, no longer receiving BZD as behavior is no longer an issue. She no longer has tremor, is not arousable and appears restful. Not surprisingly, her BP is still 155/92 and HR is 110. Urine culture on day 3 is grossly positive for E.Coli. Your next best step is:

a) Allow the ICU to further manage her agitation with Precedex and additional psychotropics if needed, while managing UTI.
b) Remind the ICU team that alcohol withdrawal can last up to 5 days, therefore she will need Precedex for at least 2 more days.
c) Ask that benzodiazepines not be stopped due to the ongoing need to target the alcohol withdrawal.
d) Consult psychiatry for additional psychotropic options to treat delirium in the ICU setting.
e) Attempt to establish a CIWA score to further instruct the amount of treatment required.

MCQ 2

D. 66yo F, h/o HTN, presents with chest pain, found to have new onset Atrial fibrillation.

You spoke with the intensivist and recommended continued treatment with ativan 2mg IV q6hrs to meet the GABA receptor demand and return on day 4. Patient has been extubated over night, no longer requires Precedex and appears to be awake, conversating with sitter. Upon screening the patient for any residual alcohol withdrawal, you obtain a CIWA score of 2 and VS have normalized, including the heart rate which has returned to regular rhythm. The next best step is:

a) Counsel the patient on need to avoid alcohol, stop the standing Ativan, leaving only PRNs for breakthrough symptoms.
b) Counsel the patient on need to avoid alcohol, make sure VS remain stable and prepare for discharge tomorrow morning.
c) Stop all Ativan and discharge on Keppra 500mg BID to avoid further complications of alcohol withdrawal.
d) Continue Ativan 2mg IV q6hrs + Ativan 2mg IV q6hrs PRN withdrawal symptoms.
e) Counsel the patient on need to avoid alcohol, stop standing Ativan and start patient on Haldol 1mg q6hrs PRN psychosis for residual UTI delirium.

References

- Broadbent W. A THERAPEUTIC NOTE: COLD AFFUSION IN DELIRIUM TREMENS. The British Medical Journal 1905. 8.
- SAMHSA. Results from the 2008 National Survey on Drug Use and Health: national findings. Rockville (MD): Substance Abuse and Mental Health Services Administration (SAMHSA); 2009.
- Robins LN, et al. Lifetime prevalence of specific psychiatric disorders in three sites. Arch Gen Psychiatry 1984;41(10):949–58.
- Moore RD, et al. Prevalence, detection, and treatment of alcoholism in hospitalized patients. JAMA 1989;261(3):403–7.
- Awissi DK, Lebrun G, Fagnan M, et al. Alcohol, nicotine, and iatrogenic withdrawals in the ICU. Crit Care Med. 2013;41(9 Suppl 1):S57–68.
- Victor M, Hope JM, Adams RD. Auditory hallucinations in the alcoholic patient. Trans Am Neurol Assoc. 1953; (3):273–5.
- Victor M. Treatment of the neurologic complications of alcoholism. Mod Treat. 1966;(3):491–501.
- Victor M, Brausch C. The role of abstinence in the genesis of alcoholic epilepsy. Eplilepsia. 1967; (8):1–20.
- McKeon A, Frye MA, Delanty N. The alcohol withdrawal syndrome. J Neurol Neurosurg Psychiatry. 2008; (79):854–62.
- Hack JB, Hoffman RS, Nelson LS. Resistant Alcohol Withdrawal: Does an Unexpectedly Large Sedative Requirement Identify These Patients Early? Toxicology Investigations 2006; (2): 55-60.
- Mirijello A, D'Angelo C, Ferrulli A, et al. Identification and Management of Alcohol Withdrawal Syndrome. Drugs 2015; (75):353–365.

Questions