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Huge unrecognised problem

- 15 to 20% of inpatients have a problem
- 8% are at risk of withdrawal
- Prediction of Alcohol Withdrawal Severity Scale(PAWSS)
 - Positive BAC on admission
 - History of
 - Withdrawal
 - Withdrawal seizures
 - DT's
 - Rehab/AA
 - Blackouts
 - Combining alcohol with BZD
 - Intoxication
 - BAC >0.20% on admission
 - Autonomic overactivity (increased pulse, BP, agitation)

Foy, A. and J. Kay (1995). "The incidence of alcohol-related problems and the risk of alcohol withdrawal in a general hospital population." Drug and alcohol review **14**(1): 49-54.

Maldonado, J. R., et al. (2014). "The "Prediction of Alcohol Withdrawal Severity Scale" (PAWSS): systematic literature review and pilot study of a new scale for the prediction of complicated alcohol withdrawal syndrome." <u>Alcohol</u> **48**(4): 375-390.



Normal brain is **balanced**

GABA

- Sedating
- Hypnotic
- Anticonvulsant



Glutamate

- Excitation
- Arousal
- Stress



What is GABA

Gabba-amino butyric acid

- GABA
 - Major inhibitory transmitter
 - Reduces anxiety
 - Reduces seizure activity
 - Increased by
 - Relaxation
 - Meditation
 - Communing with nature







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Alcohol changes the balance

GABA

- Sedating
- Hypnotic
- Anticonvulsant





- Excitation
- Arousal
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Alcohol Misuse



DOWN regulates GABA

Healthy Communities

GVHealth

Alcohol withdrawal

LOW

GABA

- Agitation
- Cannot relax
- Cannot sleep
- Convulsions



HIGH Glutamate

- Excitation
- Arousal
- Stress



Alcohol Withdrawal



• HIGH glutamate







Alcohol withdrawal – support GABA



• HIGH glutamate





GVHealth

Alcohol withdrawal

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HIGH Glutamate

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General measures

Quiet room



- Withdrawal
 - Mild oral thiamine
 - Mod
 IM thiamine
 - Severe IV thiamine

<u>diazepam</u>

40 mg /day	(8 tabs)
80 mg/day	(16 tabs
200 mg/day	(40 tabs

- Seizures rapidly increase diazepam
- Hallucinations low dose antipsychotics



Why use diazepam

- Familiarity everyone knows Valium
- Rapid onset
- Safety





Why not use diazepam

- Diazepam is metabolized in the liver
- It will accumulate in liver disease





Healthy Communities

Temazepam

Viable alternative benzo's

Oxazepam

- 30 mg oxazepam = 5 mg diazepam
- Typical regime 60 to 120 mg 2 hourly
- Total dose can be 600 to 1200 mg/day!

• Lorazepam

- 1 mg lorazepam = 5 mg diazepam
- Typical regime 2 to 4 mg 2 hourly
- Total dose 16 to 40 mg/day



Alternatives to benzodiazepines

- Anticonvulsants (evidence is not strong)
 - Gabapentin (Neurontin)
 - Pregabalin (Lyrica)
 - Vigabatrin (Sabril)





Vigabatrin (Sabril)



- Vigabatrin 4 tabs daily for 3 days
 - Irreversible inhibitor of GABA transaminase
 - Natural GABA rapidly increases
 - May need little or no diazepam
 - STUPPAECK, C. H., DEISENHAMMER, E. A., KURZ, M., WHITWORTH, A. B., & HINTERHUBER, H. (1996). The irreversible γaminobutyrate transaminase inhibitor vigabatrin in the treatment of the alcohol withdrawal syndrome. *Alcohol and Alcoholism*, *31*(1), 109-111.
 - Williams, James, Lisa Collins, Amanda Norman, Helen O'Neill, Martyn Lloyd-Jones, Edward Ogden, Yvonne Bonomo, and Adam Pastor. "A Placebo-Controlled Randomized Trial of Vigabatrin in the Management of Acute Alcohol Withdrawal." *Alcohol and Alcoholism* 58, no. 1 (2023): 40-45.





Alcohol withdrawal

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HIGH Glutamate

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Thank you

