Gabapentin for the *prophylaxis* of alcohol withdrawal

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Investigating the role of gabapentin as an alternative agent to benzodiazepines for preventing progression to severe alcohol withdrawal in hospitalized patients

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Complicated alcohol withdrawal

- Associated with increased in-hospital morbidity and mortality, length of stay, health care costs, ventilator use and duration, and acute medical and surgical complications.
- Benzodiazepines (BZDs) are 1st line agents for prophylaxis for inpatients at risk of developing severe/complicated withdrawal, but they pose a risk for over-sedation, delirium, negative neurologic sequelae, and alcohol-BZD codependence.
- There is a paucity of data regarding alternative prophylactic agents to BZDs for patients who are not yet experiencing signs of withdrawal.

Gabapentin's potential

- Gabapentin indirectly modulates GABA neurotransmission by inhibiting voltage-dependent calcium channels leading to anxiolytic, sedative, and anticonvulsive properties.
- Gabapentin's role as an adjunct in acute treatment of alcohol withdrawal syndrome (AWS) has been established, but its role in prophylaxis warrants further investigation.

Study's purpose

- Determine the safety and efficacy of gabapentin as an add-on prophylactic agent for preventing the progression of AWS and associated complications in hospitalized patients at risk of developing AWS.

Methodology

Design:
Single-center retrospective chart review

Participants:
≥18 years old hospitalized patients at risk of AWS with initial Clinical Institute Withdrawal Assessment for Alcohol (CIWA) scores <8

Exclusion criteria:
- Active withdrawal upon admission
- Initial CIWA score ≥8
- BZD or gabapentin as a home medication

Groups:
Patients who received gabapentin prior to a reported CIWA score ≥8 vs those that did not

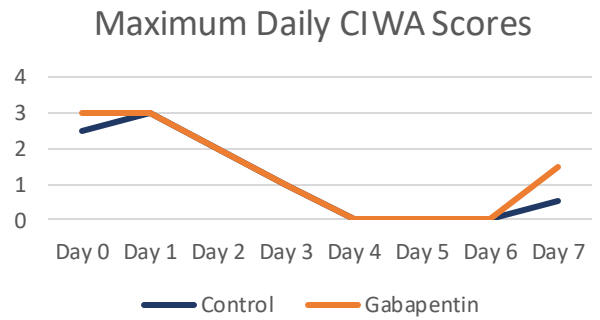
1 Primary Endpoint:
Rate of progression from CIWA scores <8 to severe AWS, defined as two CIWA scores >15 within an 8-hour time period

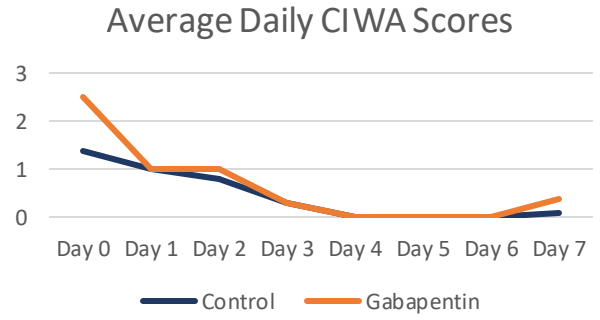
2 Secondary Endpoints:
- Average and max patient CIWA scores
- Need for rescue medications
- Hospital and ICU length of stay (LOS)
- Rates of complications from AWS
- Adverse effects of gabapentin use

Results:

Baseline Characteristics	Gabapentin group (n=15)	Control Group (n=30)	P-value
Age (yr), m (IQR)	52 (42-62)	56 (52-66)	0.29
Sex (male), n (%)	5 (16.7%)	25 (83.3%)	0.78
Daily alcohol intake, m (IQR)	11.0 (7.0-22.0)(n=12)	7.5 (5.3-11.0)(n=27)	0.19
History of AUD, n (%)	14 (93.3%)	24 (80.0%)	0.24
Clinical Outcomes	**Gabapentin group (n=15)**	**Control Group (n=30)**	**P-value**
Progression to severe AWS, n(%)	1 (6.7%)	1 (3.3%)	1.00
Cumulative BZD**, m (IQR)	4 (2.0-5.0)(n=11)	5 (1.5-9.0)(n=14)	0.91
Hospital LOS (hrs), m (IQR)	102.8 (73.8-161.8)	85.3 (60.0-158.0)	0.39
ICU LOS (hrs), m (IQR)	44.6 (30.3-57.4)(n=3)	85.5 (70.0-100.0)(n=6)	**0.03***

m: mean; IQR: interquartile range; AUD: alcohol use disorder; ICU: intensive care unit
*p<0.05 denotes statistical significance; **lorazepam equivalence





Conclusion

- Our pilot study evaluating gabapentin for AWS prophylaxis found no differences in progression to severe withdrawal, hospital LOS, need for rescue medications, BZD requirements, or adverse effects. Median ICU LOS was shorter among patients who received gabapentin.
- Gabapentin 300mg q 8H was the most commonly observed dosing regimen.
- Limitations: small sample size, retrospective design, combination of high and low risk patients
- Larger prospective studies evaluating gabapentin prophylaxis in high-risk patients are warranted. The lack of observed differences in our study may be attributed to the small sample size and the combination of low- and high-risk patients.

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