

Gabapentin Verses Chlordiazepoxide for outpatient Alcohol Detoxification Treatment

Background

- There is need for alternative treatment of alcohol withdrawal. The current standard of care is a course of benzodiazepines, but there are potential problems with their use. Gabapentin shows promise for alcohol withdrawal therapy. It is not habit forming, has limited drug interactions, and has been shown effective in some studies for alcohol withdrawal.

Objective

- To determine the sedation and alcohol craving reduction potential of gabapentin compared to chlordiazepoxide for treating alcohol withdrawal

Methods

- **Design**: Randomized, double blind, parallel, controlled experimental study
- **Inclusion criteria**: Patients had to meet DSM-4 criteria for alcohol withdrawal (had 2 or more of the following criteria): sweating, pulse > 100 BPM, hand tremor, insomnia, nausea or vomiting, sensory disturbance, agitation, anxiety, or seizure.
- **Exclusion Criteria**: Patients were excluded if they any unstable medical or major axis 1 psychiatric conditions requiring emergency management or urgent hospitalization; comorbid benzodiazepine, opioid, or barbiturate abuse or dependence; current active seizure disorder requiring chronic anticonvulsant therapy; or receiving beta-blockers, clonidine, gabapentin, benzodiazepines, or other drug therapy likely to affect alcohol withdrawal symptoms.

Treatment Regimens

- This was a 7 day study that involved a taper
- During treatment the patients received either gabapentin or chlordiazepoxide with corresponding placebo using the following regimen:
 - Gabapentin 1200 mg or chlordiazepoxide 100 mg orally on days 1-3
 - Gabapentin 900 mg or chlordiazepoxide 75 mg on day 4
 - Gabapentin 600 mg or chlordiazepoxide 50 mg on day 5
 - Gabapentin 300 mg or chlordiazepoxide 25 mg on day 6

Primary outcome measures: The Epworth Sleepiness Scale (ESS) and Penn Alcohol Craving Scale (PACS) scores.

Secondary outcome measures: Clinical Institute Withdrawal Assessment for Alcohol Revised scale (CIWA-Ar) scores.

Results

Early stage (days 1-4)

Scale	Gabapentin (95% CI) [n=15]	Chlordiazepoxide (95%CI) [n=7]	Difference (95% CI)
ESS	5.97 (4.08 to 7.86)	5.31 (2.76 to 7.86)	0.6 (-1.93 to 3.26) <i>P=0.61</i>
PACS	15.66 (12.74 to 18.58)	17.05 (12.66 to 21.45)	-1.39 (-6.48 to 3.7) <i>P=0.59</i>
CIWA-Ar	5.86 (4.19 to 7.53)	6.64 (4.04 to 9.24)	-0.77 (-3.71 to 2.16) <i>P=0.6</i>

Late Stage (days 5-7)

Scale	Gabapentin (95% CI) [n=15]	Chlordiazepoxide (95%CI) [n=7]	Difference (95% CI)
ESS	2.65 (0.44 to 4.85)	6.35 (3.13 to 9.57)	-3.7 (-7.21 to -0.19) <i>P=0.04</i>
PACS	10.74 (7.09-14.39)	16.78 (10.92 to 22.64)	-6.05 (-12.82 to 0.72) <i>P=0.08</i>
CIWA-Ar	4.33 (2.10 to 6.56)	3.29 (-0.28 to 6.88)	1.03 (-3.15 to 5.22) <i>P=0.62</i>

Strengths

- The study design was the gold standard and the dosing of gabapentin was in line with previous studies for alcohol withdrawal.

Limitations

- Small sample size
- Unbinding was not assessed
- Not all adherence test results were reported
- It was difficult to determine when patients dropped out
- A symptom based dosing schedule may have been more helpful to minimize sedation
- The study only took place in one center
- Dosing of chlordiazepoxide was relatively low compared to typical dosing for alcohol withdrawal
- Some patients did not have significant sedation or alcohol withdrawal symptoms at baseline

Conclusion

- Although the study showed a statistically significant ESS score reduction in the gabapentin group, this result was not likely clinically significant. No other results showed any statistically significant differences.
- Further research is needed with a larger sample size to minimize type II error and classify patients that would be likely to receive the most benefit from this therapy. A symptom based dosing schedule should be used to provide more information about withdrawal symptoms at specific points in time, and analyses of adverse effects should be included.

Reference: Stock CJ, Carpenter L, Ying J, et al. Gabapentin versus chlordiazepoxide for outpatient alcohol detoxification treatment. *Ann Pharmacother.* 2013; 47(7-8): 961-9.

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