IMPACT OF DEXMEDETOMIDINE ON BENZODIAZEPINE REQUIREMENTS IN CRITICALLY ILL PATIENTS WITH ALCOHOL WITHDRAWAL

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Background: Withdrawal from alcohol is a significant concern in critically ill patients as it increases the risk of psychological and hemodynamic complications. Benzodiazepines are the current standard of care as they are shown to relieve withdrawal symptoms, but higher doses are associated with respiratory depression, delirium, and mortality in this population.

Objective: The objective of this study was to determine if the addition of dexmedetomidine to standard therapy decreases cumulative benzodiazepine requirements in critically ill patients with alcohol withdrawal.

Methods: This retrospective, observational cohort study evaluated adult critically ill patients requiring treatment for alcohol withdrawal from 1/2017 to 12/2017. Patients were included if receiving ≥12 mg lorazepam or equivalent within four consecutive hours. Patients in the control group received as-needed benzodiazepines alone using an ICU-specific Clinical Institute Withdrawal Assessment for Alcohol-revised (CIWA-Ar) protocol, while the study group received dexmedetomidine (DEX) for ≥12 hours in addition to CIWA-Ar protocol. Patients were evaluated for 5 consecutive days after inclusion. The primary outcome measure was cumulative benzodiazepine dose given over the course of CIWA-Ar protocol. Data was analyzed with SPSS and a p-value < 0.05 was considered significant.

Results: Of 154 evaluated, 33 patients were included (19 control vs 14 DEX) and had a mean age of 50±12 years with the primary admission for alcohol withdrawal. Baseline initial CIWA-Ar scores were similar between groups, (10.5±7.4 control vs 14.7±6.2 DEX, p=0.09). Cumulative lorazepam equivalents over the course of CIWA-Ar protocol was similar, (121±103 control vs 104±104 DEX, mg, p=0.65). Also, CIWA protocol duration was similar, (151±91 control vs 163±155 DEX, hours, p=0.77). Overall, DEX patients tended to have longer ICU and hospital lengths of stay, (191±150 DEX vs 121±89 control, hours, p=0.08) and (393±277 DEX vs 256±152 control, hours, p=0.11), respectively.
**Conclusion:** Despite dexmedetomidine’s anxiolytic and sympatholytic properties, the addition of this agent to our institution’s current standard alcohol withdrawal therapy did not decrease total benzodiazepine requirements. Patients who received dexmedetomidine as adjunct therapy also tended to have longer ICU and hospital lengths of stay. Further study should attempt to determine the appropriate patient population, timing of administration, and duration of dexmedetomidine therapy to best optimize its use in the treatment of severe alcohol withdrawal.