TITLE: Adjunctive Phenobarbital Versus Benzodiazepine Monotherapy in the treatment of Alcohol Withdrawal Syndrome: A Retrospective Cohort Study

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STUDENT SUBMISSION: No

TOPIC/TARGET AUDIENCE: Physicians, nurses, researchers, and quality improvement teams.

ABSTRACT: Background The treatment of alcohol withdrawal typically consists of a symptom-based benzodiazepine protocol. Purpose To determine whether using phenobarbital in combination with benzodiazepine improves patient outcomes including mortality, hospital length of stay (LOS), ICU admission, intubation, and hospital-acquired pneumonia. Methods We conducted a retrospective cohort study of 5,728 patients admitted to Samaritan Health Services hospitals between 2014-2021 with an alcohol abuse related diagnosis who were treated with benzodiazepine monotherapy or benzodiazepine plus phenobarbital. Results Patients who received benzodiazepine plus phenobarbital were more likely to be discharged from the ICU, receive Precedex medication, and had higher CIWA scores compared to the benzodiazepine monotherapy group. When adjusting for these factors, benzodiazepine plus phenobarbital patients had higher odds of intubation and of having a hospital LOS over 7 days (Intubation Adjusted OR=3.4, 95% CI=2.0-5.7, p<0.001 and Hospital LOS Adjusted OR=2.9, 95% CI=1.9-4.4, p<0.001). No other outcomes differed across our study groups. Implications In our study, benzodiazepine plus phenobarbital wasn't superior to benzodiazepine alone. However, patients who received benzodiazepine plus phenobarbital appear to have a higher acuity than patients getting benzodiazepine alone. Randomized clinical trials are needed to confirm these findings, where confounding effects such as differences in patient acuity can be controlled for.

OBJECTIVE(S): Assess whether using phenobarbital in combination with benzodiazepine improves patient outcomes including mortality, hospital length of stay (LOS), ICU admission, intubation, and hospital-acquired pneumonia.