Maine Medical Center
Department of Emergency Medicine
Journal Club Summary Template

Date: 4/14/22	**Presenter Name: Rachel Godfred**

Article Citation:
Staidle, et al. Phenobarbital and/or benzodiazepines for recurrent alcohol withdrawal: A self-controlled, retrospective cohort study. *American Journal of Emergency Medicine.* 54 (2022) 263-266.

Country(ies):
Unites States

Funding Source(s): None

☐ None Stated

Purpose

Research Question(s):

x None Stated

Hypotheses:

x None Stated

Study Purpose:
To assess the efficacy and safety of phenobarbitol with or without adjuvant benzos for treatment of acute alcohol withdrawl in the ED caring for large urban patient population with high rate of recurrent ED visits from withdrawal.

Methods

Study Design:
Non-matched, self-controlled retrospective cohort study

Outcome(s) *[or Dependent Variable]:*
Primary outcome: Admission or discharge and bounceback to ED in 48 hours
Secondary outcome: Level of care on admission, ED length of stay, adverse events (Bradypnea, mechanical ventilation, hypotension, seizure), 1st and highest CIWA

Intervention *[or Independent Variable]:*

3 arms: IV phenobarb, IV benzos, or combination of both

Ethics Review: x IRB Review ☐ IACUC Review ☐ Other: ☐ None Stated

Research Setting:
ED of urban level 1 trauma center, San Francisco General Hospital, July 1 2018 to July 31 2019

Study Subjects:

Inclusion Criteria:
-18 years or older
-Being treated for ETOH withdrawal
-Needed to have 1 previous encounter with IV PB (with or without benzos) then on separate encounter IV Benzos **without** phenobarb

Exclusion Criteria:
-If they received study drug for any reason other than ETOH withdrawl
-Did not receive the drugs prior to dispo

Study Interventions:
IV PB: 130mg to 260mg every 30 min
IV Lorazepam: 2mg every 30-60 min
IV Diazepam every 15-30 min with escalating doses of 10, 20, 20, 40, 40, 80mg

Benzo equivalent was 2mg lorazepam, 10mg diazepam, 5 midaz, 25 librium

Study Groups:
137 patients with 642 ED encounters
245 PB only
293 BZ only
104 Combination PB and BZ

Instruments/Measures Used:

Data Collection:
From SF General Hospital Medical Records

Data Analysis:

Statistical analyses used: STATA, ANOVA, Person Chi2, logistic regression

Adjustment for potential confounders? ☐ Yes X No ☐ Not Described ☐ N/A
No, but each group was balanced including mean age, proportion of men, weight, serum creatinine, hx of seizure

Results

Study participants:

Phenobarb only: 424mg with average of 2.3 doses
Benzo only: 5.3mg with 2.6 doses
Combo: Phenobarb 405mg with 2.3 doses, and 3.3mg benzo with 1.6 doses

Brief answers to research questions *[key findings]:*

-Primary outcome of admission to the hospital and return to ED in 48 hours did not differ between groups
    -PB group with 37% admission, BZ 38% admission, Comb 46% admission
    -Return to ED PB 17%, BZ 15%, Comb 13.5%
-Patients needing ICU care were significantly higher in the combo group (8.6%) compared to PB (2.9%) or BZD (3.8%) alone
-Significantly longer ED LOS for combination group (8.5hr) compared to PB or BZ only groups (6.4 and 7.0h). -No significantly different difference in ED LOS between PB only and BZ only groups

Adverse events:
3 patients needed intubation - all in BZ group
Hypotension more common in combination group

Summary: No difference between PB and BZ alone. But Combo had higher adverse events with increased ED LOS, higher rates of ICU admission, more hypotension

Additional findings:

Limitations:

Okay study - but had lots of limitations

- No protocol on how to give the medications. Left up to physician discretion on which dosing or how to combine the drugs. no scoring system to help guide change. To improve results, have a protocol based on certain scores, get certain dosing of drug at certain intervals to allow it to be more standardized.
- No randomization: Physician chooses which group the patient goes into. Causes physician bias of physicians just picking which route they are most comfortable in, then managing that in the best way they can.
    - Selection bias: Physician picks which regimen they think would work best for the patient. I know the patient that I'm choosing to give IV lorazepam feels different in my mind than the person I'm choosing to give Phenobarb to. So overall just hard to interpret without there being true randomization
    - Combo group had more adverse events. Hard to interpret this. But was this because the doc thought they were more sick and likely needed more medication? Or was this from the adverse synergistic effects of the medications.

Also, I often dont think of giving phenobarb to someone that will likely be discharged….

Clinical Implications
Applicable? Very applicable - similar level 1 trauma center **Feasible?** **Clinically relevant?** Need more studies, ones with further protocols on dosing strategies, and randomized to really be able to have a meaningful takeaway **Comments:**

Level of evidence generated from this study
☐Ia: evidence obtained from meta-analysis of randomized controlled trials ☐Ib: evidence obtained from at least one randomized controlled trial ☒IIa: evidence obtained from at least one well-designed, controlled study without randomization ☐IIb: evidence obtained from at least one other type of well-designed quasi-experimental study ☐III: evidence obtained from a well-designed, non-experimental study ☐IV: expert committee reports; expert opinion; case study; case report

Additional Comments/Discussion/Notes