



## Question

In the treatment of alcohol withdrawal (ETOH-WD) in non-intubated patients, does the use of phenobarbital (PB) decrease length of stay (LOS), CIWA scores, restraint use, and medical costs?

## Background

Alcohol abuse occurs in 20% of admitted patients experiencing ETOH-WD. Alcohol is involved in 25-35% of MVAs, 31% of traumas and 16% surgical patients. LOS can average 4.4 days, including ICU stays for therapies such as lorazepam drips, intubation, and sedation. Recent studies have shown PB is an effective alternative to standard (control) benzodiazepines (BZ) treatment.

## Purpose

The purpose is to validate if PB decreases LOS, CIWA scores, 1:1 nursing care, restraints and medical costs for those experiencing alcohol withdraw.

## Methods

Though many cases were followed, reviewed here is a single case study comparing PB to Bz in the variables mentioned above. One patient, with two separate hospitalizations for ETOH-WD, received the standard BZ protocol and then the PB protocol respectively.

Data	Control (BZ)	PB protocol
ED admission	9/13/18 @ 19:50	1/3/19 @ 2100
SH admission	9/13/18 @ 23:28	1/3/2019 @ 2205
Age & weight	37 81Kg	37 81kg
Sex	M	M
Diagnosis	ETOH W/D, Hallucinations	ETOH W/D
ED care	4mg Ativan 1 L NS	PB 486mg IV
First dose PB	Not given	1/3/19 @ 2247
ICU LOS (hours)	IMCU only	12 hr
Hospital LOS	6 days	36 hr (1.5 days)
Intubation	No	No
Ativan Gtt	No	No
Ativan given in ICU	N/A	None
Total Ativan	68 mg w/ 125 mg Lithium	None
Precedex	No	No
Haldol	No	No
Propofol	No	No
Fentanyl	No	No
Total PB given	none	3 doses
CIWA pre med.	21	24
CIWA post med.	21→20→20	11 → 2 (1/3/2019)
1:1 CNA	Yes	No
Restraints	Yes (22hr)	No
Total cost	11,392\$	2.700\$
Oral taper dose	N/A	Yes: two doses then discharged

## Methods (continued)

Two protocols were developed.

1. PB 10mg/kg IV loading dose
2. PB 10mg/kg tapered 4-3-3mg/kg over 3 doses.

CIWA scores determined which protocol was followed, with a score <15, and a history of liver disease determining the taper dose.

## Results

Data collection for this case review:

1. The 'control' visit had a total of Ativan 68 mg and Librium 125mg given, 1:1 nursing care for 22 hr and a LOS of 144hr. CIWA scores remained 21-20-20 for the first 24 hr. Total cost \$11,392.
2. In the 'PB therapy' visit, after the loading dose (486mg IV), the CIWA score were 24-11-2 in the first 24 hrs. LOS was 36 hrs. No 1:1 care. Total cost \$2,700.

## Conclusion

PB ETOH-WD treatment can potentially result in less difficult withdrawal symptoms for patients (lower CIWA scores), decreased use of 1:1 nursing care, ICU care, use of restraints and lower hospital costs.

### References

1. PB for moderate to sever ETOH-WD in the Acute care setting 5/2017 Michaud, Pharm D, Devine, Pharm D. Portsmouth Regional Hospital.
2. Treatment of ETOH-WD syndrome: PB vs CIWA-Ar protocol. Tidwell, Pharm D, Thomas Pharm D. AJCC 11/2018, Vol27, No.6