Safety and efficacy of phenobarbital for benzodiazepine detoxification

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1. Background and objective

Benzodiazepine (BDZ) efficacy and safety profile present clinical issues such as memory impairment, dependence and abuse. Withdrawal symptoms can vary from simple rebound anxiety to life threatening seizures. Severity is associated with short-acting BDZ, prolonged or high-dose use. Despite several clinical approaches (gradual taper, switching to a long-acting BDZ, phenobarbital substitution and prescribing antidepressants medications) yet limited data are available in literature on safe and effective detoxification protocols. Phenobarbital, (a long-acting cross-tolerant molecule) substitution and tapering has been long used by our Medical Toxicology Unit. Aim of our study was to investigate phenobarbital tapering safety and effectiveness.

2. Methods

Using Medical Toxicology Unit database, a retrospective study was carried out in order to evaluate 213 patients treated with phenobarbital tapering for BDZ detoxification from January 2006 to December 2012. The primary outcomes, were safety, tolerability and efficacy of the protocol used. Outpatient follow up was performed in 48 patients who detoxicated during the year 2012 in order to evaluate relapse at 1st and 12th month after detoxification. The medical procedure used was as follow:

- Inpatient: Continuous assessment of signs and symptoms of withdrawal/intoxication
- Daily urine drug test
- Toxicology profile
- Psychiatric consultation

3. Results

![Diagram](image)

4. Conclusion

All patients were treated with a starting phenobarbital dose of 50-100 mg every 8 hours, calculated on the bases of referred abuse, adjusted on account of symptoms and progressively tapered during the hospitalization.

BDZ detoxification using phenobarbital showed to be a good choice in an inpatient setting on the basis of:

- **Safety**: No major adverse side effects were observed. Median length of hospitalization was 8.5 days and, although 80% (n=168) of patients referred a long-term high-dose abuse, none showed any severe withdrawal symptoms, like seizures.

- **Efficacy**: at time of discharge 70% (n=132) of patients were completely BDZ-free and 70% (n=52) of patients followed in 2012 resulted still BDZ-free at 12 months after discharge.

- **Tolerability**: of the protocol was confirmed by the low study drop-out rate (10%, n=22).

We observed a higher risk of drop out and BDZ relapse in patients with the following phenotypes: male, long-time and high dose BDZ intaker (mainly of lorazepam drops) and with co-assumption of methadone, buprenorphine or illicit drugs but without a psychiatric comorbidity.

Younger patients tend to drop-out more likely but, once detoxicated, remain longer drug-free.