

Benzodiazepine Intoxication and Withdrawal: Assessment and Management

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KEYWORDS

Benzodiazepine
 Intoxication
 Tolerance
 Withdrawal
 Dependence
 Addiction

HOSPITAL MEDICINE CLINICS CHECKLIST

- 1. Benzodiazepines are one of the most commonly prescribed classes of medication. In addition to their beneficial therapeutic effects, there are inherent risks with their use, including abuse, dependence, intoxication, and withdrawal.
- 2. Benzodiazepines act on gamma-aminobutyric acid (GABA) A receptors, exerting a calming effect, as well as producing drowsiness and facilitating sleep. They hold US Food and Drug Administration approved indications for generalized anxiety disorder, panic disorder, insomnia, and seizure disorder.
- 3. Slurred speech, ataxia, and incoordination can occur with mild to moderate intoxication. A paradoxic agitated confusion or delirium can occur on occasion, in certain populations.
- 4. Development of stupor or coma can occur at more severe stages of intoxication. Benzodiazepines rarely lead to death when ingested alone.
- 5. Clinical interview and examination, collateral information, and urine toxicology are the cornerstones of the evaluation of benzodiazepine intoxication.
- 6. The management of intoxication includes evacuation of the gastrointestinal tract, as well as assessment and management of the airway if needed.
- 7. Chronic use of benzodiazepines routinely leads to tolerance, dependence, withdrawal, and addiction.
- 8. Tolerance and withdrawal have been linked to neuroadaptive changes involving GABAergic and glutamatergic receptors in the central nervous system that are induced by chronic drug use.

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- 9. Benzodiazepine discontinuation can lead to 4 distinct syndromes: recurrence or relapse, rebound, pseudowithdrawal, and true withdrawal.
- 10. There is a great variability to withdrawal symptoms and syndromes: they differ between and within people as well as agents.
- 11. Frequent symptoms of withdrawal include anxiety, insomnia, restlessness, agitation, irritability, and muscle tension. Uncommon but serious symptoms are psychosis, seizures, confusion, paranoid delusions, hallucinations, and persistent tinnitus. Death can ensue if withdrawal is severe and not managed properly.
- 12. Although a variety of factors exist, time course and severity of the withdrawal syndrome are most commonly linked to the dose, duration of use, and duration of drug action.
- 13. In addition to pharmacokinetic and drug-specific factors, there are a variety of clinical factors that influence the withdrawal syndrome, including degree of mental disorder, polysubstance abuse, chronic comorbid medical conditions, age, gender, and educational level.
- 14. The evaluation and assessment of benzodiazepine withdrawal involves clinical interview and history taking, physical and mental status examination, and basic laboratory work (including urine toxicology and blood alcohol level).
- 15. The first step in the management of benzodiazepine withdrawal is the determination of the appropriate setting for detoxification.
- 16. There are 2 primary options for detoxification: tapering, or substitution and tapering.
- 17. Adjuvants to a benzodiazepine detoxification regimen include anticonvulsants and cognitive behavior therapy.
- 18. The best prevention for benzodiazepine dependence and addiction is careful prescribing.

OVERVIEW

Benzodiazepines have been one of the most commonly prescribed medications since their introduction in the 1960s. They have long eclipsed the use of barbiturates, primarily because of their improved safety profile. Continued controversy exists regarding what role the benzodiazepines should have in the treatment of anxiety disorders, and whether there is potential long-term risk with the development of dementia.^{1–4} In addition to the beneficial therapeutic effects, there are inherent risks with use, including abuse, dependence, intoxication, and withdrawal, which every clinician needs to be able to recognize and manage.

PHARMACOLOGY

What is a benzodiazepine?

Benzodiazepines are a class of psychotropics that exert a variety of effects, including hypnotic, anxiolytic, anticonvulsant, myorelaxant, and amnesic.⁵ Benzodiazepines are agents that hold US Food and Drug Administration approved indications for generalized anxiety disorder, panic disorder, insomnia, and seizure disorder. They have similar mechanisms of action, but have differing pharmacokinetic properties that

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