

Adverse Effects of Nitrazepam

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Abstract: *Nitrazepam is a drug of choice used to treat insomnia but only when the condition goes out of control. It acts on brain to help the patient overcome with difficulty in sleeping. Nitrazepam belongs to the family of drug called benzodiazepine but along with the Advantage it has some severe side effects. These side effects can be lethal or life threatening to patient. In this review we are focusing on the side effects of Nitrazepam.*

Keywords: Nitrazepam, side effects of Nitrazepam

I. INTRODUCTION

Nitrazepam is a member of the class of drugs known as "benzodiazepines" (BZD), which are generally used to treat anxiety disorders, sleeplessness, and to prevent epileptic seizures (fits). Excessive dread or concern that interferes with daily activities is a sign of an anxiety disorder, a mental health condition. A chemical shift in the brain's neurons causes seizures (fits), which are characterized by abrupt spikes in electrical activity in the brain and jerky movements of the limbs or other parts of the body. Epilepsy is a brain-related neurological condition. A person who struggles to get asleep or remain asleep has insomnia, a sleeping problem.(2) They are often used to treat insomnia temporarily (as well as other sleeping problems such as regular night awakenings, early morning awakenings, and trouble falling asleep). Strong sedative, anxiolytic, amnestic, and skeletal muscle relaxant characteristics make Nitrazepam a potent hypnotic medication.(1)

Nitrazepam contains "Nitrazepam," which relieves anxiety, stops additional seizures (fits), and relaxes tense muscles by raising levels of the relaxing chemical gamma-amino-butyric acid (GABA) in your brain's brain cells (neurons). Additionally, Nitrazepam treats short-term insomnia (sleeplessness) brought on by anxiety disorders. For mild to severe stress and anxiety connected to daily living, Nitrazepam is not advised.(2)

In order to evaluate the risks associated with prescribing Nitrazepam for senior insomnia patients, 2111 hospitalized medical patients who took the medication had their adverse drug responses examined. In 49 Nitrazepam receivers (2.3%), manifestations of undesirable central nervous system (CNS) depression (such as sleepiness or a "hangover"), and in 15 (0.7%), manifestations of unwanted CNS stimulation (such as nightmares, sleeplessness, restlessness, etc.). The negative effects weren't thought to be substantial in any way. 3 The therapeutic effectiveness of Nitrazepam as reported by doctors was unrelated to dose, however the incidence of both categories of side effects considerably increased with larger daily doses. Among contrast to CNS stimulation, which was reported by 11% of individuals aged 80 or older, CNS depression was also much more common in the elderly.(3)

1.1 Pharmacology

A nitrobenzodiazepine is how Nitrazepam is categorised. Both flu Nitrazepam and clonazepam are nitrobenzodiazepines. When metabolized, nitrobenzodiazepines produce a 7-amino metabolite. [3] The chemical name for Nitrazepam is 1,3-Dihydro-7-nitro-5-phenyl-2H-1,4-benzodiazepin-2-one, and it belongs to the 1,4 benzodiazepine class. The effects of Nitrazepam and other benzodiazepines on progesterone levels and neurosteroid metabolism may have an impact on how well the brain and reproductive system work. The drugs reported to have the greatest impact on neurosteroids and progesterone was Nitrazepam and medazepam. Similar to neurosteroids, benzodiazepines have pharmacological effects on the GABA_A receptor. The GABA_A receptor is positively allosterically modulated by neuroactive steroids, improving GABA action. The metabolism of neurosteroids is potently inhibited by a number of benzodiazepines, including diazepam, medazepam, estazolam, temazepam, flunitrazepam, and nitrazepam. It has a prolonged half-life, is lipophilic, and undergoes hepatic oxidative metabolism. The increase of GABA at the GABA_A receptor is one of nitrazepam's primary pharmacological actions. It fully agonistically activates the benzodiazepine

receptor [4]. [5] Some of the pharmacological characteristics of Nitrazepam may be influenced by an opioid mode of action. [6] The amino acids glycine and aspartic acid are less abundant in the brain tissue after taking nitrazepam. The decline could be brought about by benzodiazepine receptor activation. [7] Nitrazepam acts at the benzodiazepine-GABA receptor complex, which causes reductions in histamine turnover at high dosages. [8] The drug Nitrazepam has antipruritic qualities. It is thought that nitrazepam's antipruritic effects result from a central mode of action as opposed to a peripheral one.(4,5)

1.2 Chemical Name and Structure

Nitrazepam is a **1, 4 -Benzodiazepinone** that is 1,3-dihydro-2H-1,4-benzodiazepin-2-one which is substituted at positions 5 and 7 by phenyl and nitro groups, respectively.

Chemical formula $C_{15}H_{11}N_3O_3$

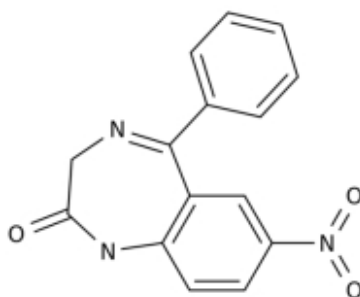


Image source: www.wikipedia.org/nitrazepam

1.3 Adverse Effects

The following side effects have been reported by at least 1% of people taking this medication. Many of these side effects can be managed, and some may go away on their own over time.

- Clumsiness or unsteadiness
- Dizziness
- Drowsiness
- Increased watering of mouth
- Light headedness
- Convulsions (seizures)
- Signs of a serious allergic reaction (i.e., abdominal cramps, difficulty breathing, nausea and vomiting, or swelling of the face and throat)
- Slow, weak, or shallow breathing
- Symptoms of overdose (e.g., extreme sleepiness, confusion, slurred speech, slow reflexes, slow shallow breathing, loss of balance and coordination, uncontrolled eye rolling, low blood pressure, coma)
- Symptoms of withdrawal (e.g., feeling like you cannot move or respond, severe confusion, shivering, irregular heart rate and excessive sweating, feeling disconnected from reality, seeing or hearing things that aren't there, believing things that aren't true)
- Thoughts of self-harm or suicide.

When taken improperly, the benzodiazepine medication nitrazepam, which is used to treat anxiety, sleeplessness, and alcohol withdrawal symptoms, can result in major health problems and even death.

Nitrazepam is a Schedule F1 prescription medicine and is not supposed to be supplied over the counter without a prescription, but Mr. Ranjith said it was possible to use fake prescriptions since pharmacies might not always be able to confirm their validity.(6,7,8,9)

II. CONCLUSION

It's crucial to take this medicine exactly as your doctor has advised. Never use this drug in bigger amounts or for longer than your doctor has directed. Take the missed dosage as soon as you remember and carry on with your usual routine

after that. If you are using Nitrazepam to help you fall asleep, avoid taking it if it will prevent you from getting a full night's rest (approximately 8 hours or more). Until the effects of this drug wear off, patients often feel confused, clumsy, and unable to focus. Skip the skipped dosage and carry on with your usual dosing regimen if you recall you missed it during the day. Do not take two doses at once. At high dosages, the impact of age on the reported rate of unintended CNS depression was most pronounced. Over 80 individuals who received an average daily dosage of 10 mg or more of Nitrazepam reported undesired CNS depression in 55% of cases. 5 Elderly people can safely take low dosages of nitrazepam, but high doses can easily cause severe CNS depression in them. The results indicate that, for the majority of patients, especially those who are old, there is minimal need to provide Nitrazepam at dosages more than 5 mg.

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