

E89 Deceiving Appearance: Death Due to the Use of the Novel Psychoactive Substance Bromazepam

Anita Roman Hasert, BS*, Charleston County Coroner's Office, North Charleston, SC 29405

Learning Overview: After attending this presentation, attendees will be able to apply their understanding of thorough medicolegal death investigation practices toward scene investigations and the importance of communication. Attendees will learn the importance of a multidisciplinary team approach in novel psychoactive substance-related death investigations. Attendees will learn the significance of effective communication and collaboration with law enforcement, medical professionals, and forensic specialists.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by contributing to both the literature regarding bromazepam intoxication and why a multidisciplinary team approach is vital for complete investigations. Medicolegal death investigation policies and procedures need to ensure accurate scene investigation to include: collection of substances on scene, both known and unknown, and ensure that testing analysis is completed on those substances that were collected in the field. This presentation will also provide information on clandestine drug labs, to include the pill printing process.

The drug class benzodiazepines works to calm or sedate a person by raising the level of the inhibitory neurotransmitter Gamma-Aminobutyric Acid (GABA) in the brain and was first identified back in 1955, by chemist Leo Sternbach. It would later be the most prescribed medication class in the world.¹ According to literature, bromazepam was first patented in 1963 and in the 1970s, began being clinically used. Bromazepam is the common name; there is a full list of brand names from countries all over the world.² Bromazepam has Central Nervous System (CNS) depressant properties and shares anticonvulsant, muscle relaxant, hypnotic, anxiolytic, and sedative effects like other benzodiazepines.³ Currently, bromazepam is not prescribed in the United States for various possible reasons; it could be because it has not been approved by the Food and Drug Administration or because of its high likelihood of abuse and addiction.⁴

The decedent was a 23-year-old Caucasian male who was found unresponsive by his college roommate on the floor of his bedroom. He had struggled with illicit drug use and prescription drug abuse for the past few years and had refused to seek any rehabilitation centers. He had moved to Charleston, SC, about two years ago to attend college and the last time the family had spoken to him, he reported that he was going to quit using drugs and was excited for school to start. On the scene investigation, drug paraphernalia was found to include a syringe, spoon with residue, a plastic bag with tan powder, white rectangular pills, and loose round gray/white pills. The drug paraphernalia was collected, minus the round gray pills. Prolonged use of bromazepam can result in dependency of the drug due to a buildup of tolerance and can also cause problems with brain and body functions such as learning ability, memory, and sensory perception. Bromazepam is long-acting and is metabolized through the liver via oxidative pathways. The appearance of the drug in pill form is as a tablet, but it is a white, odorless powder. The round gray/white pills that were loose in the decedent's dresser had a slight imprint on them and the color just looked like gray and white powder pressed into a round shape but, despite trying to determine what the pills were, they were never collected. Upon returning to the residence the following day, the pills were already missing. Although the drugs that were tested did not return as bromazepam, alprazolam and heroin were detected in the other collected paraphernalia. In conducting research, there are multiple articles regarding pharmacokinetic parameters of bromazepam. Based on the circumstances surrounding the victim's social history, toxicology, drug analysis, and autopsy findings, the cause of death was determined to be acute mixed drug toxicity, with bromazepam as one of the drugs attributing to the death. The manner of death was classified as accident.

Reference(s):

1. Lectopam® Product Monograph Template. https://www.rochecanada.com/PMs/Lectopam/Lectopam_PM_E.pdf.
2. Drugs.com. Bromazepam. <https://www.drugs.com/international/bromazepam.html>.
3. Hoffmann-La Roche Limited. Lectopam Product Monograph Template. Mississauga, Ontario. 2018 Sept.6: 1-21.
4. Garden State Treatment Center. Why is Bromazepam Not Prescribed in the United States? Accessed December 12, 2020. <https://www.gardenstatetreatmentcenter.com/bromazepam-not-prescribed-in-united-states/>.

Benzodiazepine, Bromazepam, Death