

From the Home to the Hospital: The New Bath Salts

Jeanne Zukas DO

Lehigh Valley Health Network, Jeanne_L.Zukas@lvhn.org

Matthew D. Cook DO

Lehigh Valley Health Network, Matthew_D.Cook@lvhn.org

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From the Home to the Hospital: The New Bath Salts

Jeanne Zukas, DO; Matthew Cook, DO
Lehigh Valley Health Network, Allentown, Pennsylvania

Case

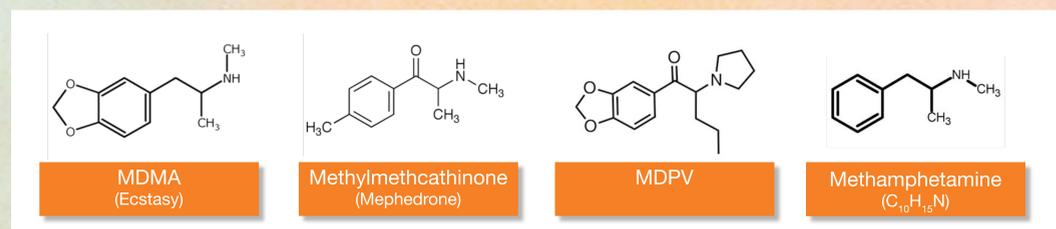
A 19-year-old woman nasally insufflated “bath salts” purchased at a local truck stop. She presented to an emergency department 12 hours later with persistent headache, palpitations, anxiety and insomnia. Vital signs revealed blood pressure 152/94 mm Hg, heart rate 131 beats per minute, and temperature 100.5 degrees Fahrenheit. EKG revealed sinus tachycardia with QRS 82ms and QTc 464ms. The patient was treated with intravenous lorazepam and observed. Her symptoms and vital signs improved and she was discharged home with family. Subsequent GC/MS (gas chromatography mass spectrometry) analysis of the “bath salts” specimen provided by the patient indicated the presence of pyrovalerone.



What are Bath Salts?

The designer drug bath salts are phenylethylamine compounds analogous to other amphetamines; they include methylenedioxypropylamphetamine (MDPV) and 4-methylmethcathinone (mephedrone).

See chemical structures below and how closely they resemble amphetamine structures.



How Are They Used?

- Imported primarily from Europe
- Sold as a powder in head shops, truck stops, convenience stores, or online as “bath salts”¹.
- They are taken orally, intravenously, insufflated or by inhalation^{1,2}.

Diagnosis

- Diagnosis is usually made by history given by patient or others.
- If use suspected but not given in history, look for drug effects which most strongly involve the neurologic, cardiovascular, and psychiatric systems³.

Side Effects

- **Neurologic:** sympathomimetic toxic syndrome, dizziness, seizures, decreased motor control³.
- **Cardiovascular:** “tachycardia, hypertension, vasoconstriction, and sweating”⁴.
- **Psychiatric:** intense drug craving, anxiety, psychosis, agitation, insomnia, paranoia, suicidal ideation, changes in perception of reality, and reduced ability to think clearly¹.
- **Complications:** rhabdomyolysis, renal failure, liver failure, and death³.

Treatment

Treatment is similar to that of other stimulant drugs. Vital signs should be monitored for hypertension, hyperthermia, or arrhythmias while laboratory screening includes creatine kinase levels⁵. Benzodiazepines have been used for treatment of violent behavior, seizure, hypertension and hyperthermia⁵. Avoidance of beta blockers is suggested to avoid rebound hypertensive urgency from alpha-adrenergic unoposition⁵. Refractory symptom management may require use of an antipsychotic such as haloperidol or ziprasidone³.

Summary

The above presentation is relatively mild compared to more severe reactions that have been seen since the drug emerged in the United States. The above case was an early presentation of what would become a growing concern in the healthcare community.

An epidemic of “bath salts” abuse is novel in the U.S., with the drugs marketed “not for human consumption” to circumvent the legal statutes of the Federal Analog Act. Both drugs were initially unscheduled “drugs of concern” according to the U.S Drug Enforcement Agency⁶. As of September 2011 bath salts are classified as illegal through an emergency scheduling policy for one year until the DEA makes a permanent scheduling decision⁶. Bath salt usage among our patients is a diagnosis of suspicion or by patient reporting its abuse. Most cases do not have GC/MS analysis as confirmation. Awareness of the drug and its effects is needed to guide its correct diagnosis and treatment. More research is needed to fully elucidate the details of this substance.

Resources:

1. Bath Salts or Designer Cathinones. XII. Drugs of Concern. Drugs of Abuse. 2011 Edition. A DEA Resource Guide.
2. Psychonaut Web Mapping Research Group (2009). MDPV Report. Institute of Psychiatry, King's College London: London UK.
3. Emergency Department Visits After Use of a Drug Sold as “Bath Salts” – Michigan, November 13, 2010 March 31, 2011. Morbidity and Mortality Weekly Reporter. Vol 60 No. 19. May, 2011.
4. Methylenedioxypropylamphetamine (MDPV). Drug and Chemical Evaluation Section. Drug Enforcement Administration. Office of Diversion Control. March 2011.
5. “Bath Salts” Health Care Provider Fact Sheet. Michigan Department of Community Health. www.michigan.gov/documents/mdch/Bath_Salts_FAQ_Health_Care_Providers_344881_7.pdf
6. Lowry, Fran. DEA Moves to Make “Bath Salts” Illegal as Overdoses Rise. Medscape Medical News. www.Medscape.com

Chemical structures: Erowid. Erowid.org