

FIVE THINGS TO KNOW ABOUT ...

"Bath salts"

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"Bath salts" are not really bath salts

Bath salts are synthetic derivatives of cathinone, a naturally occurring stimulant found in the khat plant (*Catha edulis*) of eastern Africa and the Arabian Peninsula.^{1,2} Although many cathinones have been synthesized for recreational use, mephedrone and 3,4-methylenedioxypyrovalerone (MDPV) account for most reports of toxicity.^{1,2} The most common routes of administration are nasal insufflation and oral ingestion.^{2,3} These drugs are commonly sold as white- or tan-coloured crystalline powders that are labelled as "bath salts" and marked as "not for human consumption" to avoid detection and regulation by authorities.^{1,2}

Toxicity is consistent with a sympathomimetic toxidrome

Because synthetic cathinones are structurally and pharmacologically similar to amphetamines, adverse effects associated with these compounds resemble those of other sympathomimetics (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.121017/-/DC1).^{1,2} The most common features of sympathomimetic toxicity seen among users of synthetic cathinones presenting to emergency departments were agitation (38.9%), palpitations (25.0%), hypertension (13.9%) and tachycardia (36.1%).² Life-threatening hyponatremia and hyperthermia are uncommon but have been associated with death.^{1,2}

Because basic drug screens do not detect synthetic cathinones, a high index of suspicion for these compounds is required when evaluating patients showing signs of a sympathomimetic toxidrome with negative urine toxicology results. Some cathinones can be detected with chromatographic techniques.²

Treatment is supportive

No specific antidote exists for synthetic cathinone toxicity.^{1,2} Benzodiazepines are used to treat agitation, seizures and hypertension.^{1,2} Persistent hypertension should be managed with α -adrenergic antagonists or peripheral vasodilators; β -adrenergic blockers should be avoided because they may intensify the stimulation of α -receptors.¹ Hyperthermia (a poor prognostic sign) warrants aggressive cooling.¹ Hyponatremia will often respond to water restriction, although hypertonic saline may be required in severe cases complicated by seizures.¹

References

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Use of synthetic cathinones is increasingly reported in Canada

Although first reported by hospital emergency departments and withdrawal management centres in the Maritime provinces, the use of synthetic cathinones has recently been seen in other provinces.⁴ The desired effects of the drug include increased energy, sociability and libido.^{1,2} Coingestion of additional recreational drugs, such as γ -hydroxybutyrate, amphetamines or cocaine, is common.²

Dependence and withdrawal can occur

In a survey of people who use mephedrone, 44.3% described the drug as being at least as addictive as cocaine, and nasal insufflation was associated with more frequent use of larger amounts of the drug compared with oral ingestion.³ In another study, 22.4% of users of mephedrone reported strong cravings for continued use.⁵ Withdrawal symptoms after abruptly stopping use of the drug are rarely dangerous and include depression, anergia and drug craving.^{2,3}

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