

25i and 2C Substituted Phenylethylamine Exposures Reported to a Regional Poison Center

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Introduction

- Novel synthetic “designer drugs”, [2C-phenylethylamines (2C-series) and N-Benzyl-phenylethylamines (N-Benzyl or 25i-Series)] have become increasingly popular in the US.
- These compounds exhibit both sympathomimetic and serotonergic effects .
- Characterization of clinical effects and toxicity of these synthetic agents can allow for early identification and optimize care of intoxicated patients.

Objective

- To characterize the clinical effects of the 2C-series and the 25i-series phenylethylamines.

Methods

- A retrospective cohort study of all single substance exposures to the substituted phenylethylamines 25i and 2C-series reported to Rocky Mountain Poison and Drug Center between 1 January 2005 and 30 September 2014 were examined.
- Descriptive statistics were generated for demographic data, products used, therapies administered, and medical outcomes.

Results

- 11 single-substance exposures (nine 2C and two 25i) were reported and all were symptomatic.
- Mean age was 19.4 years, ranging from 15-30 years, with 7 males.
- The most common exposure route was ingestion (8 cases, 73%).
- Clinical outcomes were mostly minor 54.5% (n = 6) and moderate 45.5% (n = 5).
- There were no major outcomes or deaths.
- The most common clinical effects reported were agitation, hallucinations and tachycardia (Table1).
- The most frequently implemented treatment modalities included benzodiazepines 64% (n= 7), and IV fluids 73% (n= 8).
- One case of 25i intoxication required bronchodilators for bronchospasm, and another case of 25i intoxication required intubation, mechanical ventilation, and ICU admission.

Table 1: Clinical effects of 2C and 25i-series exposures

Clinical effects	Number (%)
Agitated/irritable	5 (45.5%)
Tachycardia	3 (27.3%)
Hallucinations/delusions	3 (27.3%)
Mydriasis	2 (18.2%)
Headache	2 (18.2%)
Ataxia	1 (9.1%)
Confusion	1 (9.1%)
Other	1 (9.1%)
Vomiting	1 (9.1%)
Hypertension	1 (9.1%)
Bronchospasm	1 (9.1%)
Coma	1 (9.1%)
Cough/choke	1 (9.1%)
Dizziness/vertigo	1 (9.1%)
Drowsiness/lethargy	1 (9.1%)

Conclusions

- Novel synthetic phenylethylamines have variable features of combined sympathomimetic and serotonergic toxicities.
- More research is needed to characterize toxicity of the different classes of synthetic phenylethylamines to allow for more targeted treatment.

Limitations

- This study is limited by retrospective design, relies on self reporting, small sample size, and no documentation of drug dosage.
- This study does not design to differentiate the serotonergic effect and sympathomimetic effects.

