

Brorphine, Isotonitazene and Metonitazene Emerge as New Age Opioids

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Brorphine, Isotonitazene and Metonitazene Emerge as New Age Opioids

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On behalf of the ToxIC Fentalog Study Group

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Background

New Age Opioids (NAOs) are classified as new non-fentanyl opioids in the illicit opioid supply. Brorphine, isotonitazene and metonitazene are NAOs with a piperidine benzimidazolone structure.

Research Question

We report six cases of opioid overdose found to contain NAOs.



Methods

This case series is from the Toxicology Investigators Consortium (ToxIC) Fentalog Study Group, an ongoing multicenter study across the United States. Consecutive ED patients with a presumed acute opioid overdose and residual blood samples were included. Exclusion criteria were: age <18, prisoners, and those with non-toxicologic diagnoses. Information collected by chart review included demographics, past medical and substance use history, clinical course, vital signs, and disposition. Discarded blood samples for all included patients were sent for toxicologic confirmation performed by liquid chromatography quadrupole time-of-flight mass spectrometry for the presence of over 900 substances including novel psychoactive substances and their metabolites.

Results

Between 10/6/20-10/31/21, 412 cases met inclusion criteria, with six positive for brorphine, isotonitazene and metonitazene. Age range was 20-57. The majority were female (n=4). All patients presented with an opioid toxidrome and received naloxone. All samples contained fentanyl and a stimulant. In the two brorphine cases, they reported using a parental opioid such as heroin or fentanyl. Both had a depressed level of consciousness (DLOC) and respiratory depression which were reversed with up to two naloxone doses. Isotonitazene was detected in two patients; both had DLOC and received two naloxone doses. The two patients that were found to have metonitazene presented in cardiac arrest. One patient died despite 6mg of naloxone and the other survived after receiving 10mg of naloxone.

Conclusion

NAOs may confound a typical opioid overdose presentation and might require higher than typical naloxone dosing. Both metonitazene patients had cardiac arrests, and other NAOs had decreased response to naloxone in our cohort. Future studies on NAO potency may be needed.

DEMOGRAPHICS				
Patient	Age	Sex	Race	Location
1	57	Female	Black/African	Missouri
2	36	Male	Black/African	Missouri
3	50	Male	Mixed-Hispanic	Michigan
4	41	Female	Unknown	Michigan
5	49	Female	Hispanic	Michigan
6	20	Female	Caucasian	California