**The Rise of Brorphine — A Potent New Synthetic Opioid Identified in the Midwestern United States**

**Purpose:** The objective of this announcement is to notify public health and safety, law enforcement, first responders, clinicians, medical examiners and coroners, forensic and clinical laboratory personnel, and all other related communities about new information surrounding the emergent synthetic opioid brorphine.

**Background:** Synthetic opioids are chemically manufactured drugs, often accompanied with unknown potency and adverse effects or health risks. New synthetic opioids may be mixed with more traditional opioids, creating additional risk and danger for recreational drug users. Synthetic opioids may be distributed in powder or tablet form. In the United States (U.S.), an alarming increase in the number of deaths linked to synthetic opioid use has been reported. The primary adverse effect associated with synthetic opioid use is respiratory depression, often leading to death.

**Summary:** Our laboratory previously reported the appearance of the potent synthetic opioid isotonitazene on the illicit drug market in late 2019. Data from controlled substance testing showed drug materials containing isotonitazene appeared as gray granular powder, often in combination with flualprazolam, an illicit benzodiazepine. In June 2020, the U.S. Drug Enforcement Administration (DEA) temporarily scheduled isotonitazene. Shortly thereafter, detections of brorphine in the U.S. began to increase, appearing as similar gray drug powders and an apparent replacement for isotonitazene. Brorphine is a potent synthetic opioid with structural resemblance to fentanyl and its analogues. However, brorphine is not controlled in the U.S. under core-structure scheduling of fentanyl related substances. Brorphine was first synthesized and reported in 2018, although analogues of brorphine appear in scientific literature as far back as the 1960s. In vitro pharmacological data show brorphine exhibits potency similar to fentanyl. Recent detections in drug related deaths leads us to believe this new synthetic opioid has the potential to cause widespread harm and is of public health concern. As of mid-July 2020, brorphine was confirmed in seven blood specimens associated with fatalities in the U.S.; brorphine has also been reported in Europe (Belgium).

**Rapid NPS Testing Now Available:**

If your agency suspects synthetic opioid toxicity with no identifiable cause of death or your jurisdiction is noticing an increase in overdose patients requiring analytical testing, contact NPS Discovery at the Center for Forensic Science Research and Education; a non-profit organization in collaboration with DOJ and CDC, which has received funding to provide rapid testing of novel drug outbreaks in the United States.

**References and Related Articles:**
- CDC: Synthetic Opioid Overdose Data

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