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114. Tramadulterant: Tramadol Detected in Patient's Serum Following An Acute Opioid Overdose

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Background: In Europe, tramadol is alleged to be an adulterant of heroin, but this is poorly reported. Tramadol adulteration of the illicit opioid supply in the US could result in higher naloxone requirements and worse overdose severity.

Research Question: What are the naloxone requirements and overdose severities of ED patients with tramadol-adulterated illicit opioid overdose?

Methods: This is a case series from the Toxicology Investigators Consortium (ToxIC) Fentalog Study Group, an ongoing study with nine sites across the United States. Consecutive ED patients with a presumed acute opioid overdose and available waste blood samples were screened; pediatrics, prisoners, and those with non-toxicological diagnoses were excluded. Information including but not limited to demographics, substance use history, clinical course, vital signs, laboratory information, and disposition were collected following a chart review. Residual blood samples were obtained from all included patients and sent for toxicological confirmation via liquid chromatography quadrupole time-of-flight mass spectrometry for the presence of over 900 substances, including novel psychoactive substances and metabolites.

Results: Between 10/2000-10/2021, 1006 patients were screened, 378 met inclusion criteria, and 67 (18%) from six hospitals tested positive for tramadol. Of these, co-exposure to fentanyl occurred in 95%. Forty-three (64%) were male; ages ranged 20-75. Only five reported taking tramadol. Forty-eight (72%) received naloxone, with 26 (39%) receiving a second dose, and eight (12%) a third dose. Bolus dosing ranged from 0.04-6 mg and three (4.5%) required a naloxone infusion. Only two died, but five were intubated and seven received CPR.

Conclusion: Tramadol was detected in 18% of our cohort following a presumed acute opioid overdose. Few realized they were exposed to tramadol. Repeat naloxone bolus requirements were common, and overdose severity was higher than expected. While the hospitals participating in the study group are geographically diverse, they may not be representative.