

Presented at the ACMT Annual Scientific Meeting 2023 – San Diego, CA

Published in J Med Toxicol 2023;19(2):118-119.

119. Heroin or Fentanyl: Prevalence of Confirmed Fentanyl in ED Patients with Suspected Heroin Overdose

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Background: United States (US) drug overdose deaths are at a record high with over 70,000 opioid overdose deaths in 2021. This staggering increase is due to the increasing prevalence of fentanyl in the US drug supply. It is unclear whether patients with opioid overdose are knowingly using fentanyl or believe they are using heroin while unknowingly using fentanyl. We aimed to examine the prevalence of confirmed fentanyl in emergency department (ED) patients with self-reported heroin overdose.

Hypothesis: We hypothesized that the proportion of fentanyl in presumed heroin overdoses would be higher than that of confirmed heroin biomarkers.

Methods: This is a subgroup analysis from a prospective multicenter consecutive cohort of ED patients age 18+ with opioid overdose presenting to 9 US Toxicology Investigators Consortium (ToxIC) sites from 2020 to 2021. Patient waste blood was sent for analysis using liquid chromatography quadrupole time-of-flight mass spectrometry. De-identified toxicology results were paired with the clinical database for analysis. Reported heroin use was based on chart review. The primary outcome was the proportion of patients who reported heroin use and the confirmed opioid analytes.

Results: Of 1006 patients screened, 406 were eligible. Of 168 patients who reported taking heroin, 88% (n= 147) were in fact found to have fentanyl or a fentanyl analog present on serum analysis (p < 0.0001). In contrast, only 46 (27%) had heroin biomarkers present.

Conclusion: The prevalence of confirmed fentanyl in ED patients with suspected heroin overdose was extremely high, while the prevalence of heroin was very low with significant discordance between the opioids patients believed they used versus actual opioids identified. US clinicians should presume that fentanyl is involved in all illicit opioid overdoses and should counsel patients on harm reduction measures. This has implications for duration of ED observation, naloxone dosing and buprenorphine induction, requiring further study.