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245. Prescribable opioids are more commonly detected following overdose among patients with a history of chronic pain

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Background: Opioid overdose remains a leading cause of preventable death in the US. Patients with a history of chronic pain may be susceptible to adverse effects of opioid use as prescribing rates fall, yet their underlying pathology persists. We aimed to evaluate differences in exposures for emergency department (ED) patients with confirmed opioid overdose who had a history of chronic pain. We hypothesized that prescription opioids would be over-represented for patients with chronic pain.

Methods: Data from 2020 to 2025 were obtained from the Toxicology Investigators Consortium (ToxIC) Fentalog Study, an observational study of patients 18 years and older presenting with suspected opioid overdose at 10 institutions in the United States. Waste blood from patients with suspected opioid overdose underwent qualitative analysis of over 1,200 substances via liquid chromatography quadrupole time-of-flight mass spectrometry. Chronic pain history status was determined by chart review conducted by investigators at participating sites. The prevalence of each substance was compared between chronic and non-chronic pain populations. Prescription opioids and metabolites included methadone, oxycodone, tramadol, noroxycodone, O-desmethyltramadol, hydrocodone, codeine, and morphine. Prescription opioids were considered collectively using bivariate statistics.

Results: Among the total patients in the Fentalog Study between the period (n = 2480), 360 patients had a history of chronic pain and 1,667 had no chronic pain documented (n = 453 unknown). Fentanyl and norfentanyl were the most common substances in both groups, but fentanyl was more prevalent in the non-chronic pain cohort (76.8% of samples vs. 65.6% in the chronic pain group, $p < 0.001$). Samples from patients with a history of chronic pain had more frequent detection of numerous prescribable opioids including methadone (16.1% vs. 12.4%), oxycodone (14.2% vs. 4.4%), tramadol (12.8% vs. 6.5%), hydrocodone (4.7% vs. 1.3%), codeine (1.9% vs. 1.0%), and morphine (1.9% vs.

0.5%). Metabolites noroxycodone and O-desmethyltramadol were also more frequent in the chronic pain cohort. Taken as a collective categorical variable, prescribable opioids were significantly more likely to be identified in patients with a history of chronic pain experiencing overdose ($p < 0.001$).

Conclusions: Fentanyl remains exceedingly common, yet notably less frequent among patients with a history of chronic pain. While the data do not differentiate between prescribed opioids and illicitly purchased prescribable opioids, patients with chronic pain may be more likely to seek out traditional prescription opioids, as opposed to high-potency novel opioid agonists. It would be prudent for bedside clinicians to screen patients with a history of chronic pain for illicit opioid use and to counsel patients on prescribed opioids about the dangers of concurrent illicit use.