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138. Young Adults With Acute Opioid Overdose: What Substances Are Actually Involved?

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Background: Opioid overdose deaths doubled in young adults in the U.S. from 2015-2020, but the current xenobiotics/adulterants and clinical outcomes in patients with opioid overdoses are largely unknown.

Research Question: What are the laboratory confirmed substances identified and clinical outcomes in young adults presenting to the ED with suspected acute opioid overdose?

Methods: This is a subgroup analysis of young adults (18-25y) in a multicenter, prospective cohort study of ED patients with suspected opioid overdose presenting to one of eight sites within the ToxIC network (November 2020-June 2022). Clinical information was collected from medical records. Waste serum was analyzed via a comprehensive LC-QTOF-MS assay to detect various drug constituents. Descriptive statistics were used to describe substances involved and patient outcomes.

Results: Of 537 patients with suspected opioid overdose, 8.9% (n=48) were 18-25 years. Ninety-six percent (n=46) had confirmed opioid overdose. Fentanyl was suspected in 22.9% (n=11) of patients, but 83.3% (n=40) had fentanyl/fentanyl analogues detected on laboratory analysis, including 22.9% (n=11) with para-fluorofentanyl and one patient with the novel synthetic opioid, metonitazene. Additionally, 50% (n=24) contained stimulants, predominantly methamphetamine (n=20), and 37.5% (n=18) had benzodiazepines detected. Adulterants were detected in 68.8% (n=33). Sixty-five percent (n=31) had ≥5 different analytes identified. Most patients received naloxone (76.1%), with 51.4% requiring ≥2 doses. While most patients (58.7%, n=27) were discharged from the ED, 22.9% (n=11) were admitted to the ICU, 16.7% (n=8) left AMA, and one patient died. On discharge, 46.8% (n=22) received a naloxone kit, 14.9% (n=7) were prescribed buprenorphine, and 19.1% (n=9) were scheduled for SUD follow-up.

Conclusion: Fentanyl/fentanyl analogs were involved in the majority of opioid overdoses in young adults presenting to the ED, though multiple other substances were also detected. A high proportion of patients required ICU admission. These findings can inform targeted harm reduction strategies.