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149. Cardiac arrest as an indication for naloxone after illicit opioid overdose

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Objective: Naloxone is commonly administered to patients in cardiac arrest when opioid overdose is suspected; however, limited data exist on the specific drugs associated with naloxone use in these cases. This study aims to identify the types of drugs involved and the response to naloxone among illicit opioid overdose cases in which the indication for administration was cardiac arrest.

Methods: The Toxicology Investigators Consortium (ToxIC) Fentalog Study (2020–2025) was a multicenter observational study of adults (≥18 years) treated for opioid overdose at ten US emergency departments. Data collection included medical record review and central qualitative toxicology analyses to detect over 1200 drugs. Patients with confirmed illicit opioid overdose who received naloxone were included. Those who received naloxone during cardiac arrest were compared to those who received naloxone for other indications (e.g., respiratory depression/arrest, decreased oxygenation). Response to naloxone was determined by chart review. Bivariate statistical tests were used to compare drug and naloxone responses across the two groups, and multivariable logistic regression was used to examine the types of drugs associated with receiving naloxone for cardiac arrest indications.

Results: Overall, 2480 suspected opioid overdose cases were included; 1580 had illicit opioids and received naloxone. Of these 76/1580 (4.8%) received naloxone for a cardiac arrest indication, while 1504/1580 (95.2%) received naloxone for other indications. Patients whose indications for naloxone included cardiac arrest were more likely to test positive for methamphetamine (56.6% versus 38.7%, $p = 0.003$) and less likely to test positive for concurrent prescription opioids (13.2% versus 23.3%, $p = 0.049$). After adjusting for age, sex, race, and ethnicity, patients whose indication for naloxone included cardiac arrest were more likely to test positive for any stimulant (aOR: 1.71, 1.02, 2.97) and less likely to have adulterants present (aOR: 0.46; 95% CI: 0.20, 5.00). Among patients whose indication for naloxone was cardiac

arrest, 35.5% had improved levels of consciousness after the first dose, and 43.4% had no response to the first dose.

Conclusion: Naloxone use during cardiac arrest was uncommon and frequently associated with stimulant co-exposures. Over one-third of patients with a cardiac arrest indication showed improved consciousness after naloxone. These findings question the reflexive administration of naloxone in cardiac arrest, suggesting that stimulant–opioid co-exposure, rather than isolated opioid toxicity, may contribute to many such presentations.