

Cocaethylene cardiotoxicity in emergency department patients with acute drug overdose

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When compared to cocaine exposure alone, cocaine and ethanol exposure in emergency department (ED) patients with acute drug

overdose was significantly associated with higher occurrence of cardiac arrest, higher mean lactate concentrations, and lower occurrence of myocardial injury.

This is the conclusion of a study titled "Cocaethylene cardiotoxicity in emergency department patients with acute drug overdose," published in the February issue of *Academic Emergency Medicine (AEM)*.

Cocaine use results in more than 500,000 [emergency department](#) (ED) visits annually across the United States, and ethanol co-ingestion is reported in 34% of these cases. Combining [cocaine](#) with ethanol results in the metabolite cocaethylene (CE), which is metabolically active for longer than cocaine alone. Current literature on the cardiotoxicity of CE compared to cocaine alone is limited and lacks consensus.

The lead author of the study is Siri Shastry, MD, MS, assistant professor in the Department of Emergency Medicine at the Icahn School of Medicine at Mount Sinai. With this study Shastry, et. al aim to begin filling the gap in the literature and examine cardiovascular events in cocaine use as confirmed by urine toxicology versus CE exposure.

This is the first study to clearly show that humans using [recreational drugs](#) who have the cocaethylene molecule in their blood have increased risk of death, coincident with evidence of acute heart injury.

More information: Siri Shastry et al, Cocaethylene cardiotoxicity in emergency department patients with acute drug overdose, *Academic Emergency Medicine* (2022). [DOI: 10.1111/acem.14584](https://doi.org/10.1111/acem.14584)

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