



K17 Death From Poppy Tea Consumption

Lauren N. Fox, MSFS, OCME, 4312 District Drive, Raleigh, NC 27607; Ruth E. Winecker, PhD, OCME, 3025 Mail Service Center, Raleigh, NC 27699-3025; and Sandra C. Bishop-Freeman, PhD, OCME, 4312 District Drive, Raleigh, NC 27607*

After attending this presentation, attendees will understand the toxicological implications of home brewing poppy beverages and the biological concentrations associated with these types of deaths.

This presentation will impact the forensic science community by increasing awareness of the toxicity of this natural high by educating forensic investigators, pathologists, and postmortem toxicologists.

The historical practice of brewing poppy tea for its opioid-like effects is making a comeback with modern-day substance abusers. Whether it is brewed as an attempt to get high, as a source of natural pain relief, or to alleviate opioid withdrawal symptoms, the desired effects among users include euphoria, sedation, or the lessening of any negative symptoms of withdrawal, such as anxiety, nausea, and sweating.

This study presents three postmortem cases with opiate toxicology results that can serve as excellent case studies for debate on the hazards of poppy-drink ingestion. Enough attention has not been given to the dangers of this practice due to the variability of the morphine content of the opium exuded from the plant. While internet tea recipes offer guidance, differences in poppy seed/pod cultivation, washing, and infusing time are some of the reasons why beverages may contain different alkaloid concentrations from brew to brew. Variability in individual opioid tolerance in addition to other drugs also taken will impact the degree of toxicity of the opiates in the tea.

Free opiates (morphine, 6-acetylmorphine, codeine, hydrocodone, oxycodone, hydromorphone, and oxymorphone) in blood and urine are analyzed by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) following Solid Phase Extraction (SPE) using a method validated against the Scientific Working Group for Forensic Toxicology (SWGTOX) validation standard. The blood concentrations of free morphine and codeine were 0.94mg/L and 0.11mg/L in case one, 0.62mg/L and 0.034mg/L in case 2, and 0.16mg/L and 0.010mg/L in case 3, respectively. Urine was submitted to the laboratory for two of the three cases. The urine concentration of morphine and codeine in case 1 were 10mg/L and 0.98mg/L and in case 2 were 13mg/L and 1.7mg/L, respectively. None of these cases were positive for 6-acetylmorphine. The minor opium alkaloids thebaine and laudanone were identified by routine basic drug extraction in the urine of cases 1 and 2.

A review of the scene evidence from all three cases will help practitioners understand the investigatory clues leading to probable poppy drink consumption.

Poppy Tea, Poppy Seed, Forensic Toxicology