G102 Suicidal Caffeine Overdose

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After attending this presentation, attendees will learn of an approach to the evaluation of a multi-drug overdose suicide by history and presentation. Recognition of the symptoms and signs of caffeine poisoning in a case of suicidal overdose.

This presentation will impact the forensic community and/or humanity by recognizing the existence of the abuse of caffeine in a suicidal overdose, how to assess the signs and symptoms of caffeine overdose, and recognizing the signs and symptoms of other drugs when assessing a multi-drug overdose.

A 44-year-old woman with a history of eight previous psychiatric hospitalizations and multiple previous suicide attempts was brought to the emergency room by her daughter at 9:20 p.m. on the day before her death. Her daughter related that she had made a suicide attempt by taking a number of prescription and nonprescription pills.

She was alert when she arrived, but her daughter gave the history for her. She said her mother had taken large but unspecified amounts of Cymbalta (duloxetine, an antidepressant), Vistaril (hydroxyzine, an antihistamine with central nervous system sedative properties), Relacor (a dietary supplement chiefly composed of water-soluble vitamins and alleged to regulate fat metabolism and homocysteine production), Seroquel (quetiapine, an antipsychotic sometimes used as an antidepressant), and an over-the-counter diet medicine, Stacker 2 (a diet medication composed of camellia sinensis white and yellow leaf polyphenols, yohimbine alkaloids derived from Pausinystalia Yohimbe bark, 6', 7'-dihydroxybergamottin, capsaicin, and anhydrous caffeine [150 mg per pill]). It was believed that she might also have taken trazodone (an antidepressant medication commonly sold under the brand name Desyrel).

She accepted PO charcoal while she was still alert, but rapidly became unresponsive and went into respiratory failure, requiring emergent intubation. In short order, her hypotension became so profound that she required a dopamine drip. Her pupils were symmetrically dilated to 4 to 5 mm. An initial episode of pulselessness at 0005 AM resolved with cardiopulmonary resuscitative efforts. Levophed (norepinephrine bitartrate, a sympathomimetic vasoconstrictor) and dopamine were maximized to maintain a mean arterial pressure of 65 mm Hg. At 0153, she became pulseless again, and remained in pulseless electrical activity during resuscitation until 0217. She maintained a pulse for thirteen minutes, but became pulselss again at 0230; with the administration of 40 mg of vasopressin, she regained a pulse at 0233. Following this third cardiac arrest, with her pupils dilated and minimally reactive, the family requested full resuscitative measures be discontinued, She survived in that condition until her final cardiac arrest at 0726. She was pronounced dead at 0736.

At autopsy, she was a well developed, moderately obese (68", 220 lb) woman with pale conjunctiva, without congestion of the face and neck. Numerous dental caries were visible on limited examination of the oral cavity. An abdominal scar correlated with internal signs of a remote cholecystectomy and gastric bypass. There were no external wounds and no wrist scars. Internal visceral examination was significant only for diffuse fine renal cortical granulation in the absence of significant heart hypertrophy (heart weight 359 gm), and a 3" abdominal fat layer, measured 2" below the umbilicus. Two quarter-inch foci of subgaleal hemorrhage were identified, and a thin film of subarachnoid hemorrhage coated the left cerebral hemisphere and both occiptal lobes.

Histologic examination showed evidence of old ischemic disease in the form of delicate, ramifying collagenous replacement of subendocardial myocardium, to a degree surprising for the gross exam of the heart. There was slight emphysematous change of the lungs, sclerotic glomeruli of the renal cortex, and superficial subarachnoid hemorrhage confirmed in the brain, without evidence of any arteriovenous malformation. No etiology for the subarachnoid hemorrhage was determined.

Toxicology performed on hospital admission blood was reported negative for trazodone, quetiapine, methamphetamine or byproducts, cocaine or byproducts, opiates, or alkaline extractable drugs. Ethanol was reported positive at 0.05% by weight by volume. Diazepam was present at a concentration of 0.07 mg/L without nordiazepam. Caffeine was present at the extremely high level of greater than 180 mg/L.

Caffeine poisoning is a rare cause of fatal overdose. Caffeine use is extremely widespread, to the degree that many toxicologic laboratories do not test for it in routine specimens. Caffeine toxicity without fatal poisoning is frequently reported. The signs and symptoms of fatal caffeine poisoning in light of this

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case, and, in comparison to opiates, cocaine, and antipsychotic and antidepressant drugs, will be discussed.

Discussion: Review of this cases will illustrate the forensic methods used to elucidate multiple drug death with overlapping signs and symptoms.

Suicide, Caffeine, Multi-Drug Overdose

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