From Hemlock to ‘Huffing’ – Poison Centers See It All

Many docs don’t know all that the poison control center does. If our patient or own child got into some medicine or ate a plant or mushroom, many of us might think to call the regional poison center (toll-free at 800-222-1222). But few might realize that we handle some quite unusual cases requiring a lot more than some basic pharmacology or medical knowledge.

Legal activity is sometimes associated with poisoning, most often with regard to suicide or unintentional deaths that are investigated by the medical examiner. Some of the most fascinating historical murder cases have involved intentional poisoning, and television is bursting at the seams with lurid stories of murder and mayhem, many with a poisoning theme.

Our regional poison control center, the South Texas Poison Center located at UTHSCSA, has been involved with a number of interesting poisoning cases in our 10 years of existence. To give an idea of how we get involved, I will describe a couple of cases we have handled:

The case of the non-Socratic ingestion

Two teens on spring break went foraging by a creek after becoming hungry. They decided to eat a portion of a plant that appeared to be parsley. Both fell ill, developing nausea and vomiting along with weakness and paresthesias. One became hyperthermic and developed tongue swelling and upper airway obstruction, and later died.

Plant material was brought in with the patient by EMS and the plant was later identified at the scene as Conium maculatum, or poison hemlock, which was famously associated with the death of the Greek philosopher Socrates in 399 B.C. This is one of only two poison hemlock deaths reported to U.S. poison control centers in that year. The poison center worked with the medical examiner in evaluating this case.

The case of the patchy infiltrate

A 28-year-old man presented to the emergency department in full arrest. There was a vague history of intentional use of drugs including ethanol. He was resuscitated but initially had very poor lung function and eventually was taken off life support after he was shown to be brain dead. On further investigation, he was found to have ingested fentanyl patches after ethanol intoxication and that concomitant opioid intoxication was likely to be the reason for his demise.

The case of the three blind guys

Within a 12-month period a few years ago, the poison center was called to help manage over 20 cases of illness brought on by “huffing” carburetor cleaning solution. Huffing is the practice of inhaling solvents, usually by placing a solvent-soaked rag into a bag and then inhaling the vapors. The hydrocarbon solvents then enter the circulation to reach the central nervous system and cause intoxication. Unfortunately for three of these patients, they also developed blindness and one died. Previously it was not thought possible to inhale enough methanol, one of the solvents in carb cleaner, to reach serum concentrations necessary to cause metabolite-induced blindness (the methanol is converted to formic acid that is toxic to the retina and other organs). We measured concentrations of up to 336 mg/dL, an incredibly high and extremely toxic level. Our report has changed the practice of medical toxicologists who now must presume the possibility of methanol toxicity due to this product.

These are just a few interesting cases among the many we encounter regularly that involve forensic investigation. The poison center is available 24/7/365 to provide medical consultation with our full staff of physicians, pharmacists, and nurses for the general public and medical colleagues, as well. Our service is non-judgmental so we encourage all to call without hesitation if assistance may be required in possible poisoning cases.

Dr. Fernández is a board certified emergency medicine and medical toxicologist and is the managing and medical director of the South Texas Poison Center at UTHSCSA. A graduate of the University of California - Berkeley and the Medical College of Wisconsin, he completed his EM residency in Los Angeles and his fellowship in medical toxicology at the University of Arizona in Tucson. He practices EM at University Hospital and provides telemedicine consultation to physicians and physician extenders through the poison center and also provides evaluations for legal teams and authors on cases with poisoning themes.