G71 The Use of Lidocaine to Commit Homicide: A Case Report and Review of the Literature

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The goals of this presentation are to report the first case of Lidocaine being used to commit homicide outside a hospital setting, to pull known cases of iatrogenic homicidal Lidocaine poisoning into the forensic sciences literature, to review and compare the two groups highlighting similarities and differences, and to distinguish those situations where an elevated Lidocaine level should trigger a more extensive investigation.

Lidocaine is a drug that is commonly used during the course of resuscitating critically ill patients. It is most effective at treating ventricular tachycardia associated with a myocardial infarct. It is therefore a common finding on the toxicology reports of medical examiner cases. It is so common one could even say that it has become part of the "normal flora" of drugs found in people who die suddenly and unexpectedly along with Cotinine and Caffeine. It is also not uncommon for Lidocaine levels to be elevated, even above the "potentially toxic" level because of the grave situations in which the drug is administered. As a result, medical examiners/forensic pathologists can become desensitized to the dangers of this drug. Above therapeutic levels, it can cause severe cardiovascular and neurologic effects including immediate asystole, apnea, and convulsions. It lowers seizure thresholds and may increase the risk of bradycardia and asystole. Yet, the common assumption about Lidocaine is that if it is found in a patient's blood, the careful hand of a physician or paramedic with the goal of saving the patient's life administered it. The cases presented here illustrate that this is not always true. One case illustrates how Lidocaine was used as a tool to commit homicide by a non-professional while the other three show that when used in the medical setting, it is not always with a therapeutic intent. The former case is the first reported of its kind.

In this paper, the cases of iatrogenic homicide are briefly reviewed, characterizing the perpetrators, the victims, the motives, and the keys to recognizing the deaths as homicides. The majority of the focus is on the case involving the homicidal Lidocaine poisoning outside the hospital. Similarities and differences between that case and the hospital-based homicides are highlighted with the goal of raising awareness as to when an elevated Lidocaine level should trigger a more extensive investigation.

The majority of known Lidocaine homicides have been committed by so called "Medical Murderers." These are health care providers of one form or another who made Lidocaine their weapon of choice. Robert Diaz was a 46-year-old nurse who killed 12 patients (and possibly 50 more) by Lidocaine injection while he worked as a nurse at two California Hospitals. His motive stemmed from his desire to appear to have a "doctor's" knowledge of how sick patients were and to "predict" when they would die. Joseph Dewey Akin was convicted of killing a quadriplegic patient by injecting him with Lidocaine for the "fun of watching him die". He committed this crime in Birmingham AL but was suspected to have killed 17 others while working at a hospital in Atlanta GA. And finally Randy Powers was a 26-year-old respiratory therapist who was never convicted of murder but was convicted of "assault with a deadly weapon" and "practicing medicine without a license." He gave an eleven-month-old child an intramuscular injection of Lidocaine inducing a high fever and seizure activity. He participated in the resuscitation and was originally thought to be a hero. Physicians however identified a needle puncture wound on the child's thigh and toxicology revealed elevated Lidocaine. Powers was suspected to have been involved in many other unexplained deaths. However, the bodies that were exhumed failed to show needle puncture wounds or elevated Lidocaine levels.

The case of homicidal Lidocaine poisoning outside a hospital involved the husband of a 69-year-old female with a past medical history most significant for Alzheimer's disease, schizophrenia, and macular degeneration. He was her sole caretaker but was also an active volunteer at the Red Cross and a local Michigan hospital. On the day of her death, he found her lying on her bed around 8:00 a.m. She was unresponive and this prompted him to notify emergency medical personnel. On arrival, paramedics determined that she had been dead for some time and pronounced her dead at the scene. Her husband reported that she was in her usual state of health and had no complaints when he put her to bed on the prior evening (around 11:00 p.m.). The police and the medical examiner investigator found the scene secured with no evidence of a struggle. She was lying on top of the bedding in her nightshirt with a pillow lying over her right leg. There was no evidence of injury to the body. At autopsy the diagnosis of Alzheimer's disease was confirmed and there was no evidence of injury or needle injection marks. Two EKG leads were the only evidence of therapy. She was a normally developed female and had moderate atherosclerotic cardiovascular disease. Postmortem urine toxicology revealed Lidocaine, Tocainide, Meperidine, Salicylate, and Caffeine. A postmortem blood drug screen (subclavian blood) revealed Lidocaine 12.4 mcg/ml (potentially toxic >8 mcg/ml) and Salicylate (non-toxic levels). Discussions with MEI personnel confirmed that EKG monitoring was the only resuscitative procedure performed on the decedent and that there was no evidence of accidental ingestion of topical anesthetics. A police investigation was started and revealed information that suggested her husband would have the knowledge to administer the drug and may have

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been involved in previous attempts to kill her. Follow up testing (including DNA analysis) confirmed the presence of Lidocaine and ruled out the possibility of specimen mix-up at the laboratory. Based on this information the cause of death was determined to be Lidocaine poisoning and the manner of death was homicide.

This paper is valuable for multiple reasons. It first pulls cases of homicidal Lidocaine poisoning into the forensic literature. Secondly, it highlights how the deaths of elderly people and the severely ill are not infrequently treated with benign neglect despite the fact that they are precisely the people most likely to be the victims of homicidal poisoning. It highlights how elevated Lidocaine levels are treated with similar benign neglect. This is clearly illustrated in the comment by one forensic pathologist who was asked to evaluate the toxicology report knowing only that it was a case of an elderly person who died at home. He quickly stated, "There is nothing here" automatically attributing the elevated lidocaine level to "an artifact of resuscitation." This paper illustrates how the hobby or profession of the assailant/caregiver can give important clues as to the cause of death and to the poison used. And finally it illustrates how doing a through scene investigation including a detailed medical and social history of the decedent and the family can alert you to a situation perfect for homicidal poisoning.

Lidocaine, Homicide, Forensic Science

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