



## Pathology/Biology Section - 2014

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### **G113 Fatal Death by Poisoning: From Myth to Science — A Forensic Point of View**

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After attending this presentation, attendees will understand the prevalence of poisoning from the forensic science perspective.

This presentation will impact the forensic science community by demonstrating the forensic and anthropological aspects of poisoning throughout the review of literature.

Introduction: Toxicology is "the science of poisons." More specifically, the chemical and physical properties of poisons, their physiological or behavioral effects on living organisms, the qualitative and quantitative methods for their analysis, and the development of procedures for the treatment of poisoning constitute the field of toxicology. Although the history of poisons dates to the earliest times, the study and the science of toxicology can be traced to Paracelsus (1493–1541) and Orfila (1757–1853). Poisoning is a major public health problem worldwide and a leading cause of injury and/or death in the United States. Ambade et al. demonstrated that in suicidal deaths, poisoning (42.3%) was the most common method of suicide followed by burning (21.5%). Moreover, mortality due to unintentional drug poisoning increased by 62% from 1999 to 2004 in the U.S. The largest increase in unintentional poisoning mortality was observed among adults aged 20–29 years and 45–54 years, women, White, or populations living mostly in rural states. Analysis of the literature was performed through the standard search engines, and in particular PubMed NCBI. The studies were divided according to the substance being analyzed. Subsequently, the tables of the collected data were carried out and the studies were divided according to the manner of death and the method of administration of the poison. The scientific articles were divided into three groups.

Conclusions: It can be concluded that the greatest number of deaths from accidental cause was found in group I (animals, plants, and fungi), while the highest number of deaths due to suicide was found in group II (herbicides, pesticides, rat poison). In group III, the situation is similar to both the deaths due to accidental cause and suicide. Poisoning is no longer considered the primary choice to hide a murder, contrary to what is told in myths and what actually happened in past centuries.

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#### **Poisoning, Forensic Science, Manner of Death**