



## Pathology Biology Section – 2011

### G10 Method of Concealment of Corpses in Mafia Related Homicides: Melting in Strong Acids

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After attending this presentation, attendees will learn about some awful methods of concealing corpses used by Mafia criminal organizations.

This presentation will impact the forensic science community by showing experimental data to help attendees better understand how strong acids and bases could melt a body; in particular, it will be shown using sulfuric acid activated with water, both soft tissues and bones could colliquate in few days, in contrast with pure sulfuric acid.

The criminal organization called "Cosa Nostra" has implemented brutal approach to commit murders over the past years, with dramatic symbolic implications, in order to prolong the agony of the victims, extract useful information, and not only to cause death as quickly and bloody as possible, but also to facilitate the concealment and the disappearance of the corpse itself. In the mafia, ritual murder must be viewed beyond the event itself, even the meaning of such gestures, take value as a warning to strike terror. Regarding the concealment of the corpses, nothing was known until the "pentiti" (those Mafiosi who turned informant) began to tell the dramatic episodes of which they witnessed or participated in from time to time, shedding light on a particular aspect of the phenomenology in Mafia's homicides known as "lupara bianca" (literally "white shotgun"): the disappearance of a subject who was known to be dead, but without knowledge of where his corpse was.

To hide the bodies of the victims tortured and killed, criminals used various methods, like burial in land, immersion in seawater with weights tied to the victims to get them to the bottom, disposal of corpses in natural caves or wells, or burning of bodies in ovens or cars. But the most chilling and ingenious method was destruction by "melting" by using strong acids or bases. In particular, some pentiti spoke about a "death's chamber," property of the criminal clan of Brancaccio and his boss, Filippo Marchese, called "u milinciana" (the eggplant, because of his skin's color), where the police found some tanks full of acid, torture instruments, and human remains.

This report's goal, therefore, is to verify experimentally the use of strong acids (sulfuric acid) for the dissolution of biological tissues animals, and also observing the macroscopic changes that the soft tissues and bones undergo over the time, in order to verify the claims of the Mafia's "pentiti" in their statements. In particular, two different tests were conducted: in the first, dipping a pork knuckle weighing 160 grams in a glass bowl containing pure sulfuric acid of known concentration, highly caustic, water-soluble, and able to carbonize organic matter. In this case, after only 30 minutes, the piece of pork appeared to be "cooked," with brownish color, in two days the muscle structures were loose, while after only six days, the bone began to be eroded, although it remained essentially integrated. The second test was made by dipping the knuckle of pork into a bath of 700 cc of sulfuric acid activated with water. In this case, the muscle-cartilaginous component disappeared after only 12 hours and after two days the bone appeared dissolved in the liquid component.

These experimental tests made have thus demonstrated that it appears unlikely that an entire body can be dissolved in few minutes (as reported by some "pentiti") using the normal commercially available sulfuric acid, but in any case it's likely that, in several days, a corpse could be colliquated and made unrecognizable.

#### **Mafia's Homicide, Concealment, Melting**