



D21 Drowning in Fuel: A Case Report

Filippo M. Cascino, MD*, and Massimo Grillo, MD*, Department of Biopathology, Medical and Forensic Biotechnologies Palermo., Via del Vespro 129, Palermo, 90127, ITALY; Tommaso Mannone, MD, V. Cervello Hospital - Palermo, Via del Vespro 129, Palermo, 90127, ITALY; and Paolo Procaccianti*, and Livio Milone, Department of Biopathology, Medical and Forensic Biotechnologies, Palermo., Via del Vespro, n. 127, Palermo, 90100, ITALY

After attending this presentation, attendees will learn about drowning in fluids other than water.

This presentation will impact the forensic science community by presenting a case report of a man who drowned in fuel.

Drowning in liquid, other than water is a non-frequent occurrence. From the analysis of *forensic* literature it is deduced, in fact, that a

systematic study doesn't exist on this matter. The drowning in fluid different from the water usually happens in liquid not mixable with the blood as the fused fat, the oil and its by-products or in substances like beer, wine and them by-products, where the alcoholic vapors compete in the reduction of the consciousness, favoring the drowning. The nature of the event is usually accidental although some of these deaths can cause safety problems in the working places.

Personal observations of a drowning case in gasoline is described. Two young people of black race, one male and one female, were found deceased on board of a craft used by clandestine immigrants for the crossing of the Channel of Sicily. The short distance between the southern coast of Sicily and the northern coast of Africa favors the crossing of the Channel of Sicily from precarious and overloaded boats of men that seek their fortune through the clandestine immigration in Europe. During the judicial inspection (conducted by another expert) the corpses were found inside two cans of metallic material. At inspection, the corpse of the female showed all the characteristics of the drowning in water of sea (as then confirmed by autopsy examination). The male corpse had maceration of the skin and strong smell of gasoline.

The autopsy examination, ordered by the Judicial authority, showed the presence of the characteristic signs of the asphyxia (conjunctival petechiae, blood fluidity, blackish-colored blood) and atypical signs of a drowning in water, as the oily surface in the blood, on the pulmonary surface and pulmonary squeezing, as well as the presence of abundant oily material inside the stomach. Such liquid, exposed to the action of a flame, got burned. The withdrawn material, preserved in special containers of plastic material, determined the corrosion of the same subsequently confirming the hypothesis of the drowning in gasoline.

Histological investigations, conducted through the use of colorations of base and colorations contemplated for the specific diagnostic question, confirmed the drowning in gasoline, on the base of the comparison of pulmonary parenchima homogeneously turned necrotic with destruction of the cellular structures, excluding the presence of any other pathology able to autonomously determine the death of the young male.

Despite the indication of drowning in gasoline, there were no signs of battering were found on the victim, which excluded the cause of death being a homicide. It is reasonable to suppose that the death of the youth was accidental, although the judicial investigations have not confirmed the real nature of the event.

Drowning, Fuel, Asphyxia