



### E67 Look in the Freezer—The Story of a Murder: A Case Report From Portugal

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**Learning Overview:** After attending this presentation, attendees will understand a case of a homicide in Portugal in which a corpse was found inside a freezer, requiring an extensive forensic investigation until it was resolved, and the murderer arrested.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by showing that postmortem freezing of a corpse is a rare method of concealing a homicide, leaving behind both macroscopic and histological findings related to the mechanics of freezing and thawing, helping to establish the precise cause and manner of death and to distinguish between postmortem artifacts and death by hypothermia.

This study presents a case of an elderly woman, missing for two days, who was found inside a freezer in her kitchen, which was being searched by authorities and friends. Over the freezer, there were no signs of disorder. The corpse was completely frozen, in a supine position, semi-flexed, with her head on a step inside the household appliance. She presented several bruises on the head and upper limbs and abrasions on both lips, on the right upper limb and on the lower left limb. The victim's head and mouth were wrapped in transparent tape and, next to the head, was a lady's handkerchief with "supposedly blood-stained patches." The crime scene investigation did not find signs of a break-in, although there were signs of robbery. According to neighbors, the victim was a belligerent person.

Before the necropsy examination, even though the corpse had been thawed for about two days, it was still partially frozen. The forensic autopsy confirmed the presence of multiple bruises scattered on the body surface, mainly on the scalp and face (translated at external and internal habits), and also on the dorsal aspects of the forearms and the right hand. These findings were compatible with a physical confrontation between the victim and the offender, as the lesions located on the forearms and the hand were suggestive of defensive lesions. From the facial lesions, the blunt wounds and the bruises located at the level of the perioral region and oral cavity were emphasized, with bloody infiltration of the perioral muscular plane and intrinsic muscles of the tongue. Such findings were consistent with a mechanism of smothering. The examination of cervical structures identified a fracture of the base of the right lower horn of the thyroid cartilage, with underlying blood infiltration, that may represent a sign of an extrinsic neck compression. Although the organs, soft tissues, and some biological fluids were still partially frozen, the smothering mechanism was reinforced by the presence of non-specific signs of asphyxial nature, namely pulmonary edema, exuberant visceral congestion, and prominent and diffuse alveolar distention. Diptera eggs were found inside the oral cavity, suggesting that the corpse remained for some time outside the freezer before being placed inside the household appliance. The genital exam performed in the autopsy room showed findings consistent with recent vaginal sexual practices. It should be noted that no macro or microscopic signs consistent with a hypothermic death were observed. In turn, the toxicological tests did not detect the presence of acetone, a compound that, when at high levels, represents a toxicological finding highly indicative of hypothermia. There were no histological findings consistent with artifacts from freezing.

This case report highlights the importance of a thorough forensic investigation, including police investigation and a complete autopsy, in order to determine the manner of death and to define the real cause of death.

#### Smothering, Hypothermia, Homicide