

E56 Two Cases of Sharp Force Trauma: Homicide or Suicide? Solving an Enigma With Forensic Methodology

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Learning Overview: The goal of this presentation is to describe two unusual cases of death due to sharp force trauma. The scientific method represents an essential tool in order to solve an enigma between homicide or suicide. After attending this presentation, attendees will appreciate the typical pattern of sharp injuries, identifying, in observed sharp force fatalities, reliable parameters that can differentiate a homicidal and suicidal manner of death.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by highlighting the importance of forensic methodology in solving diagnostic dilemmas between homicidal or suicidal fatalities due to sharp injuries. Crime scene investigation, a detailed postmortem examination, and a complete histopathological study are mandatory to solve the enigma.

Sharp force trauma is a popular cause of homicide and suicide in many countries. Characterization of the injuries between the two is crucial for a differential diagnosis. Suicidal wounds are typically multiple, favor certain sites of election—such as throat, wrist, and front chest—and often characterized by a number of preliminary trial cuts, called “tentative incisions.” Nevertheless, the interpretation of sharp force fatality dynamics may be difficult in some cases, but a contribution to analysis of the phenomenon may be provided by case studies. Therefore, this presentation discusses two cases of suicide concealed by sharp force trauma: the first is characterized by 44 sharp wounds and the second by only one sharp wound. The wide variety between these two cases makes this presentation an opportunity.

The first case concerns a 44-year-old man who was found dead in his house near Rome. Police officers and forensic pathologists were immediately alerted to investigate the crime scene. The man was found nearly naked, lifeless, lying on the floor in the bathroom. A big pool of fresh blood was detected on the floor, near the cadaver. Two big knives (length: 44cm and 20cm, respectively) were found on the sink. In the past, the man had been charged with child abuse and was under house arrest. A complete postmortem investigation was performed the day after death. Twenty-two sharp wounds were described on his chest and abdomen, and 20 more sharp wounds were described on his arms (“tentative incisions”). At gross internal examination, hemorrhagic infiltration in the subcutaneous tissues of the chest and sharp wounds of the heart and both lungs were observed. None of the abdominal organs were involved. Histological stains performed with hematoxylin-eosin showed erythrocytes between the muscle fibers in the sample taken by the heart as well in the pulmonary alveolus in the sample taken by the lungs. These demonstrate the presence of tentative incisions, which support a suicide hypothesis by knife wounds.

The second case concerns a 73-year-old man who self-stabbed himself in his house in Rome. His wife was present and tried to aid him by removing the knife from his chest. The interrogation of the wife revealed that her husband was an alcoholic and had a history of depressive disorder. A wide, deep, incised stab wound with regular margins was observed in the anterior region of the chest at external examination. No other traumatic injuries were detected. A complete postmortem investigation was performed the day after death.

At gross internal examination, mild cerebral edema was recorded. Gross examination of the chest was performed according to conventional techniques and showed massive hemorrhagic infiltration in the subcutaneous tissues. A near-complete heart laceration was observed in correspondence of the left ventricle. Unexpectedly, lacerations of the heart were present on a big fibrous area. The lungs were not involved in the injuries. White foam was observed at the airways exploration. Both cerebral vasogenic and pulmonary edema was observed at histopathological examination. Huge amounts of erythrocytes were detected in the skin samples and heart samples. Foci of contraction band necrosis were also observed on the heart microscopic examination. Toxicological analysis was suggestive of mild alcohol intoxication. The cause of the death was massive hemorrhage. Both morphological and microscopical evidence from autopsies and information obtained by a detailed crime scene investigation led the investigators to conclude a successful and atypical sharp force suicide.

Suicide, Sharp Force Trauma, Self-Stubbing