E53 Choose the Cause of Death: A Complex Suicide

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Learning Overview: The goal of this presentation is to present a multidisciplinary approach to a case of complex suicide. In order to assist the judicial authorities and police inquiries in classifying the crime, toxicologists and forensic pathologists have to be involved. In this case, the role of the forensic pathologist was of primary importance to clarify time and causes of death and to distinguish between suicide and murder.

Impact on the Forensic Science Community: Complex suicides are an uncommon form of suicide in which multiple suicide methods are associated, representing a challenge for forensic pathologists. They are classified as typical (two suicide methods associated) and atypical (more than two methods involved) forms of suicide. In the case of a complex crime scene like this, the differentiation between homicide and suicide can be difficult; this presentation will impact the forensic science community by providing important support for the management of similar forensic cases.

This case report is about an atypical, complex case of suicide This 55-year-old woman was found by her sister, deceased in her bedroom. The sister immediately called for medical assistance, police, and, ultimately, the medical examiner was notified.

The woman was discovered lying on her bed with her left hand tied to her right foot with Scotch® tape. Three plastic bags were wrapped around the head. She had superficial incisions on her left wrist. There were bloodstains on the floor, which led to the hypothesis that the victim moved after suffering injuries. A bedside table was leaning against the door, inside the room. There were many empty packages of drugs (acetaminophen, levothyroxine, diazepam, and Acetylsalicylic Acid [ASA]) found in the bedroom.

A multidisciplinary forensic approach, including full autopsy, histological, immunohistochemical, and toxicological analyses, were performed. The autopsy revealed pulmonary and cerebral edema. In addition, thrombosis of the left middle cerebral artery was observed, occluding 80% of the vascular lumen. Histological analysis confirmed the autoptical evidences of pulmonary and cerebral edema and showed massive acute emphysema. Histological analysis of the heart revealed severe myocarditis and advanced coronary disease. Brain tissue showed signs of subacute ischemic suffering. The liver showed signs of centrilobular necrosis. Toxicological analysis revealed a lethal concentration of acetaminophen (4,026.2µg/ml), and therapeutic concentrations of diazepam. The results of autopsy and subsequent examination, combined with the result of crime scene examination, determined the cause of death as smothering. There were not signs of forced entry and no defensive wounds. The absence of these elements eliminated homicide as a manner of death. These findings suggest that a methodological approach, which involves forensic pathologists, toxicologists, and crime scene investigation is essential in cases like this. This collaboration properly identifies the cause and manner of death.

Complex Suicide, Toxicology, Asphixiology