



Pathology & Biology Section – 2004

G25 Homicidal Injury or Resuscitation Artifact?

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After attending this presentation, attendees will become aware of resuscitation artifact created by mechanical cardiopulmonary resuscitation systems.

Objectives: to present a case of resuscitation artifact from mechanical cardiopulmonary resuscitation system which could be potentially confused with homicidal injury and two additional cases involving the use of a mechanical cardiopulmonary resuscitation system; and, to discuss the mechanical cardiopulmonary resuscitation system used in the City and County of San Francisco.

Evaluation and correct identification of resuscitative artifact is critical in the diagnosis and determination of cause and manner of death in certain cases. Resuscitative artifact can emulate inflicted injuries and possibly be misinterpreted. Occasionally new technology and/or medical procedures will create original and distinctive artifact. This presentation discusses one new technology and its related artifact.

The decedent is a 69-year-old obese white man with a history of hypertension who is found dead on the floor of the bedroom/office in the home that he shared with his daughter and a downstairs tenant. On the evening of his death, his daughter was out with her fiancée. During the evening, the decedent reportedly engaged in a verbal altercation regarding the use of the oven in the kitchen with the downstairs tenant. The tenant reported that the landlord seemed very agitated, angry, and tense, which was unusual for him. The tenant called the decedent's daughter, who returned with her fiancée to the residence. While the daughter's fiancée was speaking with the tenant he noted an abrasion on the back of the tenant's right hand, which the tenant claimed was from striking a wall after the verbal altercation with the landlord. The daughter went upstairs and found her father lying on the floor, unresponsive. Hearing the daughter scream, her fiancée went upstairs. The daughter called 911 while the fiancée started cardiopulmonary resuscitation. When the paramedics arrived, they continued resuscitation using a mechanical cardiopulmonary resuscitation system. Despite all efforts, the decedent was pronounced dead at the scene.

External examination showed an abrasion on the top of the head, abrasions on the right side of the forehead, the right cheek, and the right side of the nose, and contusions of the lateral right eyebrow and left temple. There were petechial hemorrhages on skin of the forehead, the upper and lower eyelids, and cheeks. There were petechial and confluent hemorrhages of the conjunctivae and sclerae. There were large abrasions on the lateral left chest and abdomen. There was a contusion of the left knee. The decedent's doctor was contacted and reported that he considered this death sudden and unexpected.

This presentation will discuss the autopsy findings of this case and two additional cases in which a mechanical cardiopulmonary resuscitation system was used. The City and County of San Francisco Medical Examiner's Office participated in the development of prototypes of a mechanical cardiopulmonary resuscitation system (Revivant AutoPulse). Recently, the San Francisco Fire Department emergency personnel began using this mechanical cardiopulmonary resuscitation system in the field. This presentation will discuss the rationale and operation of mechanical cardiopulmonary resuscitation systems and associated findings at postmortem examination.

Forensic Pathology, Resuscitation Artifact, Mechanical Cardiopulmonary Resuscitation