H128 Fire Marshal and Medical Examiner Collaboration in the Investigation of a Complex Homicide

Christine James, DO, Allegheny County OME, 1520 Penn Avenue, Pittsburgh, PA 15222; Donald Brucker, PhD, Allegheny County Fire Department, 400 N Lexington Street, #200, Pittsburgh, PA 15208; and Karl E. Williams, MD, Allegheny County OME, 1520 Penn Avenue, Pittsburgh, PA 15222*

After attending this presentation, attendees will better appreciate the advantages of collaboration between law enforcement and other agencies in the investigation of complex death scenes, especially those in which the presence of trained fire scene investigators are involved.

This presentation will impact the forensic science community by exploring the ability of trained investigators from disparate disciplines to interact synergistically to enhance the scientific analysis of death scenes.

When fire department Emergency Medical Services (EMS) personnel were called to the scene of a fire, they discovered an unconscious but living 15-year-old Black female. The victim exhibited evidence of a gunshot wound to the head and superficial thermal damage to the face, trunk, and extremities.

She was transported to a local hospital where she was found to have a carbon monoxide level of 40%. A tangential gunshot wound to the right side of the neck and face was also present.[1] This wound fractured the right mandible but exited the head in the right temporal scalp without damage to deeper vital structures in the head or neck. Attempted resuscitation efforts, which began at the scene and continued in the emergency department, were unsuccessful.

Investigation by the fire marshal revealed that two separate fires had been started in separate rooms in the house using material found at the scene, but resulted in only minimal damage to the structure. Unsuccessful attempts to burn the victim could be identified by burn patterns on the body, and the patterns of the thermal trauma could be positively correlated with objects used to start the fire.

Scene investigation utilized blood-spatter patterns and ballistic trajectory analysis to reconstruct the scene of the shooting. Autopsy findings were of a superficial gunshot wound of the head and dense, soot-laden blood in the upper airways.

Death was certified as being a combination of acute fume inhalation and gunshot wound of the head.[2]

A suspect was quickly identified and confessed to the shooting, but related a scenario that was at variance with the scene and autopsy evidence. He was subsequently found guilty of first-degree murder, arson, recklessly endangering, illegal possession of a firearm, and theft.

Reference (s)

1. Cina S.J., Ward M.E., Hopkins M.A. Nichols C.A. Multifactorial analysis of firearm wounds to the head with attention to anatomic location. *Am J Forensic Med Pathol.* 1999 Jun;20(2):109-15.

2. Copeland A.R., Homicide by fire. *Z Rechtsmed.* 1985;95(1):59-65.

Fire Death, Gunshot Trauma, Homicide

*Presenting Author