



Pathology & Biology Section – 2005

G11 Contribution of Burn Injury in a Blunt Trauma Case With Incineration

John B. Davis, BS, Eastern Virginia Medical School, 700 West Olney Road, Norfolk, VA 23507-1607; and Leah L. Bush, BS, and Wendy M. Gunther, MD, Office of the Chief Medical Examiner, Tidewater District, 830 Southampton Avenue, Suite 100, Norfolk, VA 23510-1046*

The goal of this presentation is to discuss a complex case in which incineration, not the primary cause of death, may have occurred just prior to death from blunt head trauma, in a homicide. In addition, the authors review recent literature on significance of carbon monoxide, traces of tracheal soot, and other findings, in determining whether incineration occurred antemortem or postmortem.

This presentation will impact the forensic community and/or humanity by discussing the issues involved in determining whether incineration of a body, on which lethal blunt head trauma had been inflicted, occurred before or after death.

Assailants in homicide have often made use of incineration in an attempt to conceal the evidence of the crime. Incineration usually occurs postmortem. Accelerants are sometimes used. This case illustrates the questions that arise when autopsy findings suggest that burn injury may have begun before death.

The Virginia Beach Fire Department responded to a rubbish fire in a field. On extinguishing the blaze, they discovered the unburned shoes and lower legs of an unidentifiable, partially incinerated decedent, extending from the burned rubbish. Local law enforcement was called to the scene, and the body was transported to the Medical Examiner's Office.

The body proved to be that of an adult male, with charring present over most of the body surface area, but with sparing of both lower legs and portions of the upper arms. There was exposed muscle, partial skeletonization of the face, and a postmortem epidural hematoma. In addition to the charred body, a distinct odor of accelerant was noted on the debris and clothing transported with the body. Autopsy revealed blunt impact trauma to the right side of the victim's head, traces of soot in the trachea, and cherry red discoloration of the muscles.

Investigation suggested that an assailant had attempted to destroy evidence of homicide by pouring an accelerant over the victim's body and igniting it after inflicting blunt trauma to the head. The literature states that traces of soot in the trachea may occur postmortem. The contribution that burning may have made to this blunt trauma homicide, the role of carbon monoxide determination in flashover burns, and evidence in general for antemortem vs. postmortem incineration, will be discussed.

Incineration, Antemortem Burn Injury, Blunt Trauma Homicide