



B155 Identification of the Metal Residues on the Death Related to the High Voltage Spark Region by SEM-EDS

Abdi Ozaslan, MD, Istanbul University, Department of Forensic Medicine, I.U. Adli Tıp Anabilim Dalı, Cerrahpasa, Istanbul, 34303, Turkey; Ismail Cakir, PhD, Council of Forensic Medicine, Ministry of Justice, Adli Tıp Kurumu Esekapi Cerrahpasa, Istanbul, 34246, Turkey; G. Bulent Uner, PhD, Istanbul University, The Institute of Forensic Sciences, I.U. Adli Tıp Enstitüsü Cerrahpasa, Istanbul, 34303, Turkey; Humman Sen, MD, Council of Forensic Medicine, Ministry of Justice, Turkey, Adli Tıp Kurumu Esekapi Cerrahpasa, Istanbul, 34246, Turkey; Salih Cengiz, PhD, Istanbul University, The Institute of Forensic Sciences, I.U. Adli Tıp Enstitüsü Cerrahpasa, Istanbul, 34303, Turkey; and Sermet Koc, MD, Istanbul University, Medical Faculty of Cerrahpasa, I.U. Adli Tıp Anabilim Dalı, Cerrahpasa, Istanbul, 34303, Turkey*

Attendees will learn an easy method for SEM-EDS data from the area of metallic particles which were originated from the evaporating conductor contaminate the skin the arc-burns related to the high voltage.

This presentation will impact the forensic community and/or humanity by demonstrating how SEM-EDS data from the area of metallic particles which were originated from the evaporating conductor can contaminate the skin the arc-burns related to the high voltage.

High voltage electric energy wires, transformers, and the devices which run with this kind of electricity, may cause serious damage and death. It is the goal of this presentation to demonstrate this to those in forensic medicine by showing the conductive evaporated metallic particles existing on the arc-burn of the corpse using the scanning electron microscope-energy dispersive spectroscopy (SEM-EDS).

It was reported to authorities that somebody who entered a transformer building in Istanbul without permission died of an arc which was formed by the high voltage within the building. The autopsy was performed in the Morgue Department of Council of Forensic Medicine, Ministry of Justice. During the autopsy, samples were collected using double-sided adhesive coated stubs from the surface of the skin lesions, which was the result of the high voltage arc, by stub. The removed samples were examined by SEM-EDS technique. The results were evaluated to determine the origin of death.

It was concluded that the SEM-EDS data from the area of metallic particles originated from the evaporating conductor. Contaminating the skin, arc-burns resulting from the high voltage, are important combined with other close examinations to identify the cause and mechanism of death.

Electrical Arc Burnt, Scanning Electron Microscopy-Energy Dispersive Spectroscopy, Metallic Particle