



G34 Electric or Traumatic Injury? The Role of Histopathological Investigation

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After attending this presentation, attendees will be able to describe the impact of forensic science in cases of electrical injuries.

This presentation will impact the forensic science community by demonstrating the role of histopathological investigation in order to discern electrical and traumatic injuries.

Electrical injury is a relatively rare but potentially devastating multisystem injury with high morbidity and mortality. Examination of the wounds is of primary importance in forensic medicine. Forensic pathologists are often called upon to express an opinion on how an injury was caused and in many cases, microscopic analysis could be beneficial.¹⁻¹¹

The goal of this study is to define the macroscopic and microscopic features of the skin lesions resulting from electrical, mechanical, and thermal trauma in order to formulate a correct differential diagnosis in cases in which these events occur simultaneously. This presentation reports two cases of workers found dead during the course of their work. An autopsy was performed in both cases and the external examinations of the bodies showed skin injuries of uncertain etiological interpretation, further clarified as electrical injuries through histopathological investigations.

Histopathological examination is, therefore, the most accurate survey to detect electrical injury, although it can't provide answers to the immediacy of the event. In these cases, the histo-pathological examination of skin samples taken during the autopsy allows the examiner to: (1) confirm the macroscopic data emerging from the external examination; (2) demonstrate the compatibility of the lesions with the electrical etiology; and, (3) show the passage of electrical current from the entry point to the exit point.

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