

# ACCIDENTAL FATAL ELECTROCUTION – A CASE REPORT

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## Abstract

The passage of a substantial electric current through the tissues can cause skin lesions, organ damage and death. This injury is commonly called electrocution.<sup>1</sup> This is a case report of an accidental electrocution with high tension cable where histopathological findings were confirmatory. This paper also highlights few points on special cautions about the high voltage current.

**Key words:** Electrocution, High tension electricity, High tension cable.

## Introduction

Although the early part of the last century witnessed the advent of electricity as a commercial power source, accidental death from electrocution was not reported until 1879. However with ever increasing industrialization and wide spread use of electricity, accidental electrocution has steadily increased.

Electrocution due to high tension cables used for the bulk transfer of power may pose great hazard in that no direct contact is necessary for electrocution. Immediate and adequate resuscitation can decrease the mortality rate because quite often the victim may be in the state of suspended animation.<sup>2</sup>

## Case report

A 23 year old male was brought to our mortuary

on 1/11/08 with a history of electrocution on the terrace of the building by a high tension cable passing near the building and the body was found 10 feet away from the electric cable on the terrace. On postmortem examination following findings were observed.

### External examination:

1. Abrasion on the left side of the forehead measuring 10cm x 4cm
2. Abrasion on the left knee measuring 7cm x 6cm
3. Abrasion on the dorsal aspect of right index finger measuring 2cm x 1cm
4. Five chalky white lesion on the right palm whose size varying from 1.5cm x 0.5cm to 0.5cm x 0.25cm. (Fig 1)
5. Three chalky white lesion on the left foot 1 on the great toe, 2 on the little finger measuring 0.5cm x 0.5cm. (Fig 2).

The skin with these chalky white lesions were sent for histopathological examination

### Internal examination:

Except for right atrial contusion along with petechiae the heart measuring 1cm x 1cm, there were no significant findings in the internal organs.

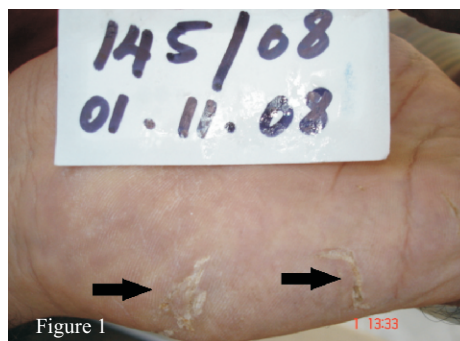


Figure-1 : Entry wound in palm

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Figure-2 : Exit wound in foot

### Discussion:

To interpret how the injuries were caused, we had a visit to the crime scene. At the crime scene we found, an aluminum rod, a newly brought barricade mesh on the terrace. The victim had got the mesh to barricade the railing on the terrace to prevent his dog falling down through the space between railings (as narrated by house owner).

Based on the circumstantial evidence it was concluded that the person was trying to put the barricade mesh to railing which accidentally fell on the high tension wire which was passing near the building and the victim tried to lift it through aluminum rod.

The lesions on the right palm were suggestive of the entry wound and the lesions on the left palmer aspect of the leg were suggestive of the exit wound. The histopathological report further confirmed that the lesions were due to electric burns with features such as pallisading appearance of cell, separation of the epidermis from dermis, separation of the keratin layer of epidermis, necrosis of the elastic fibers deep in the dermis.

The injuries on the left side of the forehead, left knee & left dorsal aspect of the right index finger were caused when he was thrown off to 10 feet distance from the high tension electric cable.

The cause of death was attributed to electrocution.

Accidents may be encountered when an individual disregards warning signs or ignores the presence of high voltage cables while moving

some ladder or otherwise engaged in some activity in the vicinity of the cable.<sup>3</sup> Carelessness or ignorance<sup>4</sup> was a major reason for accidental deaths due to electrocution<sup>4,6,7</sup>.

Electrical petechiae represent a non specific but typical finding in electrocution irrespective of the mechanism leading to death<sup>4</sup>.

Death due to electricity may be in four forms exitus momentaneous(immediate death), exitus dilatatus(delayed death),exitus retardatus (late death) and exitus interruptus(victim is made unconscious by electric trauma, then regains consciousness, speaks and walks, only to collapse dead shortly thereafter.<sup>5</sup>

### Conclusion:

The present case emphasizes the need of proper insulation of high tension cables which are passing near the buildings. The other thing is bringing awareness among the people about the danger of electricity and preventive measures to be taken.

### References

1. Saukko P, Knight B. Knights Forensic Pathology. 3<sup>rd</sup> ed. Arnold, London. 2004: 326.
2. Moar JJ, Hunt J B. Death from electrical arc flash burns-a case report.SAMS 1987; 17: 181-182.
3. Vij K. Textbook of Forensic Medicine and Toxicology. 3<sup>rd</sup> ed. New Delhi: Elsevier; 2005: 50.
4. Kager B, Suggeler O, Brinkmann B. Electrocution – autopsy study with emphasis on “electrical petechiae”: *Forensic Sci Int*- 2002 May 23; 126(3): 210-3.
5. Tedeschi C G. Forensic Medicine.W B Saunders company, Philadelphia, 1997: 649.
6. Schott JC, Davis Gj, Hunsaker JC. Accidental electrocution during autoeroticism: a shocking case. *Am J Forensic Med Pathol*. 2003 Mar; 24(1): 92-5.
7. Kumar S, Thomas S, Lehri S. Abdominal wall and stomach perforation following accidental electrocution with high tension wire. A unique case. *J Emerg Med*.1993 Mar-Apr; 11(2): 141-5.