



Case report

Head injury coupled with electrocution

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ABSTRACT

Killing of a human being is one of the most serious or major crimes. Assailants are very keen to conceal crime by different methods, so there may be wrong interpretation by inexperienced autopsy surgeons and hence it may lead to injustice. So it is important that our keen observation and opinion should be conclusive for the administration of justice. In this paper we are presenting a rare case of head injury coupled with electrocution. Deaths due to electrocution are infrequent; virtually all such deaths are mostly accidental in nature with suicides much rarer & homicides least common. In India, the electricity supplied in domestic houses is usually 220-240 volts alternating current with 50 cycles per second. Homicidal electrocution is caused by placing live wire at some place which the victim is expected to touch. In this case after meticulous autopsy, the case turned to be of homicidal manner. The cause of death was head injury coupled with electrocution which were ante-mortem in nature and sufficient to cause death in ordinary course of nature. The present paper highlights the importance of meticulous autopsy for determination of cause and manner of death.

Keywords: Homicidal, Vertex, Electrocution, SAH, AC

INTRODUCTION

Deaths due to electrocution are infrequent; virtually all such deaths are mostly accidental in nature with suicides much rarer & homicides least common. In India, the electricity supplied in domestic houses is usually 220-240 volts alternating current (AC) with 50 cycles per second.¹ Homicidal electrocution is caused by placing live wire at some place which the victim is expected to touch.² The mentality of assailant after causing injury to their victims is to hide the crime by disposing of the dead bodies by burning, burying, throwing them into water or concealing them in distant places in most of cases, electrocution, hanging and throwing the dead body on railway track, or infliction of injuries which appears to be accidental.

CASE REPORT

A 23 years old male, JBT teacher was found dead alongside road by his father on 11-05-2013 at 5:00 AM with injuries on his head and both hands as alleged by his father. Police got the information at

9:00AM on the same day. Police took the body to general hospital Hansi, Hissar, Haryana. Body was referred to PGIMS, Rohtak on the request of one of his uncle for post-mortem examination. Post-mortem examination done in PGIMS, Rohtak on 12-05-2013 at 10:20 AM by board of doctors with apparent cause of death as mentioned in the inquest papers was "kisi hathiyar se chot marna va bijli se jala dena".

AUTOPSY FINDINGS

EXTERNAL EXAMINATION

Body received at morgue was of male individual having a length of 175cm wrapped in a blue-white color checked khes. Post-mortem staining was present over back except at contact points. Rigor mortis was passed off completely. Both eyes and mouth were closed.

INJURIES

- A reddish contusion of size 6cm x 5cm was present over top of head (vertex) in middle. On

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dissection underlying soft tissues were ecchymosed. On opening of skull sub-dural hemorrhage and sub-arachnoid hemorrhage (SAH) was present over parieto-temporal region on both sides.

- A lacerated wound of size 4.5cm x 1cm was present over left frontal region situated 7cm above middle of left eyebrow and 4cm from midline. The margins were irregular. On dissection underlying soft tissues were ecchymosed.
- A reddish abraded contusion of size 3cm x 2cm was present over left side of face, 4cm away from left angle of mouth. On dissection underlying soft tissues were ecchymosed.
- Multiple reddish contusions varying in size from 2cm x 2cm to 0.5cm x 0.5cm was present over chin and adjoining areas. On dissection underlying soft tissues were ecchymosed.
- Multiple electric burns in form of shallow crater over the palmer aspect of right hand at a level of 0.5cm to 1.0cm above the metacarpophalangeal joints in transverse plane with width of 0.3cm to 0.5cm involving the whole width of right hand. The injuries were showing skin splits with irregular margins, firm to hard in consistency, greyish in color with punched out margins with heat effects. On dissection underlying soft tissues were pale. Similar multiple electric burns injuries were also noticed over palmer aspect of proximal, middle, distal phalanges in their middle in transverse plane of 3rd and 4th finger and the thenar & hypothenar eminence. Size of injury varying from 1.5cm x 0.3cm to 2.5cm x 0.5cm and also over the dorsal aspect of proximal phalanges of right hand situated in transverse plane at a level of 1cm x 1.5cm below knuckles.
- Electric burns in the form of shallow crater of size 2.5cm x 0.7cm was present over palmer aspect of left hand on antero-medial aspect, 2cm above base of left little finger. Margins were irregular, punched out. They were firm in consistency and showing heat effects and grayish in color. On dissection underlying soft tissues were pale. Multiple electric burns in the form of shallow crater of size varying from 1cm x 0.5cm to 2cm x 0.7cm were also present over dorsal aspect of left hand over an area of 6cm x 5cm.
- Electric burns were also present over posterior aspect of right leg, 10 cm below centre of popliteal fossa in transverse plane of size

varying from 1.5cm x 0.5cm to 3cm x 1cm. These type of injury were also present over posterior aspect of left leg, 2cm below centre of popliteal fossa of size 2cm x 2cm. The lesions were irregular margins with heat effects and grayish in color.

- Another reddish contusion of size 2cm x 1cm was present over right arm on its lower 1/3rd region on antero-medial aspect with ecchymosis of underlying soft tissues.

INTERNAL FINDINGS

On internal examination skull and vertebrae were found to be healthy with no indication of spinal cord examination. On thorax examination wall, ribs & cartilage, pleurae, larynx & trachea, pharynx & esophagus, hyoid, lungs, pericardium, heart and large vessels were healthy.

On abdomen examination wall and peritoneum were healthy. Stomach contain 50cc of yellowish mucoid material. Small intestine also contain mucoid material. Large intestine contain fecal matter and gases. Liver, spleen and kidneys were pale. Urinary bladder was empty while organ of generation were healthy.

DISCUSSION

Head injury is the common mode of homicide. Amongst them blunt head injuries were common. Family related matters were the main motive behind the killing.³ An electrical injury occurs when a current passes through the body, interfering with the function of an internal organ or sometimes burning tissue. Electrical injuries have become a more common form of trauma with high mortality. They may result from contact with faulty electrical appliances or machinery or inadvertent contact with household wiring or electrical power lines.⁴ Electrical burns have a characteristic appearance and pathological findings. There is streaming of the epidermal nuclei at the point of contact with the current microscopic blisters of the epidermis.^{5,6}

In the present case, the significant findings of head injury on the vertex and electrocution were ante-mortem in nature and homicidal in manner. The electric injuries were made on the deceased after inflicting head injury to conceal the crime of homicide as accidental. But, after considering the findings of autopsy, it became clear that assailant had inflicted head injury on the deceased and to conceal the crime, electrocuted the deceased with the intention of making it a case of accidental electrocution with head injury.

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