



CASE REPORT

Pillion riders beware: Motorcycle fire following road side accident – An autopsy case report

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Abstract Extensive thermal burns resulting from roadside accidents (RSA) involving motorcycles are very rare. Here we are going to present a case report in which the pillion rider was burnt to death underneath a motorcycle which caught fire following an impact with a roadside structure. Few points regarding the fire safety of two wheelers have also been mentioned.

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1. Introduction

Two wheeler passengers have a higher risk of deaths due to roadside accidents (RSA) than the occupants of four wheelers. The most common types of injuries leading to death in RSA are head injury followed by injuries to the lower limb, upper limb, chest, abdomen, and spine.^{1–3} Death due to burn injuries arising from RSA comprises a minuscule subgroup and the involvement of motorcycles in such incidents are further rare.⁴

In the present case, a pillion rider of the motorcycle was burnt to death. The victim got stuck under a felled motorcycle following contact with some unknown vehicle from behind. After that, the motorcycle had allegedly hit the parapet wall of the flyover and got engulfed in fire. Surprisingly the person riding the motorcycle had escaped unhurt. The sequence of events that happened during that fateful night has been described below.

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2. Case report

2.1. History and clinical findings

The patient was brought to the emergency department of this institute following an RSA over the flyover. According to the investigation officer, the motorcycle of which the deceased was a pillion rider, was hit by an unknown vehicle from behind following which the motorcycle lost balance, hit the parapet wall and caught fire. The patient got stuck underneath the burning motorcycle and sustained thermal injuries. The locals as well as the police arrived at the accident site within a few minutes and tried to douse the fire. They also helped in moving/shifting the victim from underneath the burning motorcycle to the hospital. The victim was initially taken to a local government hospital, from where he was referred to the tertiary health care center at Chandigarh.

2.2. Clinical findings

On arrival in the Emergency Room, the patient was found to be in a semiconscious state with vitals like blood pressure of

90/50 mm Hg, pulse rate of 120/min and a GCS of E1V1M3. Thermal burns to the extent of 70% of the total body surface area was also noted. An open posterior dislocation of left knee joint was observed with the lower end of femur protruding out. The patient was immediately intubated and was followed with intravenous fluids, antibiotics, and analgesics. Unfortunately, the patient succumbed during the management within a few hours of the admission due to extensive burn injuries.

2.3. Autopsy findings

The deceased was an average built male individual with a body length of 161 cm and a weight of 64 Kgs. Due to the heat contractions, the elbow joint, wrist, and fingers of both the upper limbs and both the knee joints were in flexure posture (Fig 1). Post-mortem lividity was present over the back of chest, abdomen and buttock except over burnt areas. Superficial to deep thermal burns were present all over the body except over the right ear, the right side of the neck, right shoulder, the right side of the back of the chest, back of the abdomen, buttocks and both soles. Patchy areas on the back of the right arm and left side of the front of the abdomen were also spared. Charring and erythema were present over most of the burnt areas along with singeing of the body hairs. Total body surface area burnt was approximately 80%. The eyelids, cornea, and conjunctiva had sustained thermal burns (Figs 1-4). Edema and mucosal congestion were observed in the oral cavity, larynx & trachea along with soot particles present in the later. There were also many reddish blue contusions present on the right side of the back of the chest. The manubrio-sternal joint had also suffered a fracture with dislocation and extravasation of blood into the surrounding tissues. Multiple petechial hemorrhages were observed over the pericardium corresponding to the overlying sternal fracture.

A degloving injury was present over anteromedial aspect of left thigh with dislocation and protrusion of the lower end of the femur. The lower end of the femur was charred, and extravasation of blood was seen in the surrounding tissue (Fig 3).

The cause of death was given as “Burn shock consequent to 80% thermal burns in a case of roadside accident”. The contusions and the de-gloving injuries were caused by blunt force



Figure 1 The anterior view of the victim's body showing the flexion posture of the limbs.



Figure 2 The victim's face being burnt completely with charring.



Figure 3 The lower end of the femur protruding out through the degloving injury of the left thigh.



Figure 4 The back of chest and abdomen are spared which shows postmortem lividity.

impact whereas flame burns caused the thermal injuries. The manner was kept pending for the receipt of the forensic report of the motorcycle which was involved in the accident. The investigation officer (IO) was handed over the postmortem report along with photographs of the dead body.

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