



G1 Decapitation Due to Car Accident: Description of a Case and Review of the Literature

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The occurrence of complete decapitation as consequence of car accident is an extremely rare event, while suicidal decapitation by hanging has been reported sporadically in forensic literature. The goal of this presentation is to describe a case of decapitation with complete degloving injury of the neck in a man involved in a traffic accident and we review other similar cases reported in literature.

This presentation will impact the forensic community by demonstrating how in such deaths, the concordance of crime scene investigations, autopsy findings and the presence of eyewitnesses if any, should be the ideal situation to achieve a reliable medico-legal analysis.

The occurrence of complete decapitation as consequence of car accident is an extremely rare event, while suicidal decapitation by hanging has been reported sporadically in forensic literature. Decapitation is usually seen in pedestrians run over by trains, and also in motorcyclists who impact against the tail board of trucks. Complete transection of pedestrians and occupants of cars is seen in road accidents with vehicles traveling at a high speed. In a recent report, Kibayashi has described a case of decapitation of a front seat passenger in a single vehicle accident. Another report described the vertical iron bar of a grill fence penetrating the neck and decapitating the driver of a two-wheeler scooter. Here we describe a case of decapitation with complete degloving injury to the neck, of a man involved in a traffic accident, and we review other similar cases reported in the literature.

A 55-year-old Caucasian man was driving his car at a speed of about 120 km/h near the city of Rome when the vehicle skidded off the road, hit another vehicle coming from the opposite direction, and finally impacted the road barriers. The decapitated body of the victim was extracted from the driver's seat, and the head was recovered outside. The immediate police report found that the victim was not wearing a seatbelt. At the autopsy, the body was that of a Caucasian man, decapitated at the first cervical vertebrae. The decapitation site had irregular, ragged and contused margins. Multiple abrasions on the face along with closed fractures of the facial bones and mandible were present. Internal examination of the head revealed diffuse subscalpular hemorrhages, and multiple fractures of the skull bones. The brain was edematous and slight subarachnoid hemorrhage was of the left temporal lobe. There were compound fractures of both humeri, multiple fractures of the ribs on both sides, and closed injuries of the shaft of left femur. Toxicological analysis revealed the presence of alcohol at the following blood concentration 2g/L. No other drugs were detected. Death was instantaneous owing to complete severing of vital neck structures.

Topography, morphologic nature of the wounds, and severity of the injuries of car occupants depend on several factors such as speed at the moment of impact, nature of the collision, active, and passive protection of the occupants, and sitting position. Several efforts and experimental studies have been made to explain the possible mechanisms provoking decapitation following vehicle accident. This injury, in the majority of cases, has been associated with failure to use seat belts, fast driving speed, and road barriers. In this case, it is plausible that because of the high-speed crash, the decapitation was provoked by an external object, such as road-barriers or structural elements of the vehicle being pushed back into the cabin and acting as a sharp-force to the neck. It is believed that in such deaths, the concordance of crime scene investigations, autopsy findings, and the presence of eyewitnesses, if any, should be the ideal situation to achieve a reliable medico-legal analysis.

Road Accident, Decapitation, Neck Injuries