



H70 Pedestrian Road Trauma: The Role of the Judicial Inspection

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After attending this presentation, attendees will be able to describe the impact of forensic investigations in the reconstruction of pedestrian road trauma.

This presentation will impact the forensic science community by demonstrating the importance of judicial inspection and toxicological surveys to ascertain the driver's responsibility.

The number of traffic accidents has increased in the last decade and pedestrians are the most affected group. Collision with a pedestrian represents the most frequent type of road accident. It is often caused by a car and frequently involves the elderly. At autopsy, it is evident that the most common cause of pedestrian death is central nervous system injury, followed by skull base fractures, internal bleeding, lower limb hemorrhage, skull vault fractures, cervical spinal cord injury, and airway compromise. The attribution of accident responsibility can be realized through reconstruction of road accident dynamics, investigation of the scene, survey of the vehicle involved, and examination of the victim. Pedestrian collisions are very frequent, but often it is difficult to determine the dynamics of the car crash. The forensic pathologist plays a central role in determining the reconstruction of the accident. The correct results are obtained only by performing a thorough inspection of the vehicle, persons, or animals involved. Therefore, the forensic pathologist, in addition to determining the cause of death, must recognize the responsibility of the driver and the persons impacted.

This study reports two cases. The first was a case of an elderly man who was walking along a road when a Sports Utility Vehicle (SUV) knocked him down. The driver stated that the man was walking in the middle of the road. The body showed various contused and lacerated wounds at the level of the head (left parietal region) and face, with the presence of soil near the lips and on the entire face. The posterior right region of the singlet presented a large dark gray spot under which were bruises and abrasions. The inspection of the vehicle revealed the presence of a red cord (similar to the fabric of the man's shoes) at the lower portion of the right bumper. The right portion of the bonnet's bodywork was broken and presented hair fragments. The autopsy of the man revealed subarachnoid hemorrhage corresponding of the left (direct hit) and right parietal regions (rebound lesion). A chest examination revealed various rib fractures in the anterior right side and the presence of hemothorax, laceration of the descending aorta, and fracture of T6 and T7 vertebrae. Finally, a left tibia fracture was also revealed. In addition, a complete inspection was conducted on the implicated SUV. In this case, the evidence collected of the judicial inspection determined that the driver was not telling the truth because he was inattentive to driving. In the second, case, a young boy was involved in a pedestrian accident. The driver stated that the boy was walking at night in the middle of the road. In this case, the judicial inspection was not conducted since the victim was immediately transferred to the morgue. An autopsy was performed which showed multiple fractures and a severe spinal cord injury with brain hemorrhage. Toxicology revealed heroin and cocaine metabolites in his biological fluids. Therefore, the forensic



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pathologist concluded it was a pedestrian accident in which responsibility also fell on the pedestrian, who was under the influence of drugs although, in the absence of inspection, it has not been possible to determine the dynamics of the road accident and the real responsibility of the driver. In a pedestrian accident, it is fundamental to make an accurate survey of the scene. The autopsy alone cannot determine with certainty the dynamics of the event. The vehicle findings are important in order to locate the point of impact. Furthermore, it is important to perform toxicological investigations on the driver and on the victim, especially when a judicial inspection is not performed,, in order to reconstruct the dynamics of the collision and the responsibility of the driver.

Forensic Science, Pedestrian Trauma, Traumatic Death