



Forensic Autopsy of Death Caused by Blunt Force Trauma

Manfred Peter*

Department of Forensic Molecular Biology, Erasmus MC University Medical Center Rotterdam, Rotterdam, Netherlands

BLUNT FORCE TRAUMA

The deaths caused by blunt-force trauma are among the most common cases encountered by forensic pathologists. Other types of traumatic death (e.g., gunshot wounds, sharp force injuries) occur in a restricted number of situations, but deaths from blunt force trauma occur in a wide range of situations. For example, blunt force trauma is the cause of nearly all transportation fatalities, including those involving motor vehicle collisions, pedestrians struck by vehicles, aviation disasters, and boating accidents. Jumping or falling from great heights, blast injuries, and being struck by a hard object like a fist, crowbar, bat, or ball are all examples of deaths caused by blunt force trauma. Bite wounds and choking injuries can be classified as variations of blunt force trauma, sharp force trauma, or as a separate category of injuries.

In incidents characterised as accidents, as well as suicide and homicide, blunt force trauma is frequently involved. Minor blunt force injuries that do not contribute to mortality are prevalent in people who die naturally and tiny abrasions or contusions on the skin are common at autopsy. Although evidence of blunt force trauma should be documented in all autopsies, it is not always the case that blunt force trauma is the cause of death. For the purposes of death certification, it should be highlighted that in circumstances when the immediate cause of death is a natural illness process, blunt force trauma could be the underlying (proximate) cause of death. Individuals may die as a result of infections, thromboemboli, or organ failure as a result of previous blunt force injuries. In some circumstances, the injury may have occurred many years before the death.

It's critical to remember and in such cases, the designated mode of death must include the causal cause that made the decedent susceptible to the illness condition, meaning the underlying injury that started the chain of events that eventually led to death. For example, "acute bronchopneumonia complicating blunt force injuries due to a motor vehicle accident" should be certified as the cause of death of an individual who died of

pneumonia after being hospitalised for several days for treatment of blunt force injuries following a motor vehicle collision. After that, the cause of death should be certified as "accident." The quantity of kinetic energy transferred and the tissue to which the energy is delivered determine the degree of damage caused by blunt force trauma. The kinetic energy of a moving item is equal to half its mass multiplied by its velocity squared. A somewhat lighter object going at a high speed will, on average cause more damage than a heavier object travelling at a moderate speed.

CONCLUSION

However, the qualities of the blunt item and the surface that is impacted are equally essential. Impacts with a broad surface area, either in terms of the impacting object or the tissues being impacted, will result in higher energy dispersion across a bigger region and less harm to the impacted tissues. A thin metal pipe striking a body part for example, would be expected to cause more localised injuries than a broad board of comparable mass and velocity striking the same body part. Similarly, a hit on a tiny area of a curved surface, such as the head, will inflict more damage than if the same impact occurred on a flat surface, such as the back, because the impact on the head will be more concentrated.

The composition, or plasticity, of the tissues that have been damaged has an impact on the injuries that ensue. A person kicked in the chest, for example, may sustain only minor damage to the elastic skin surface, whereas deeper, more solid tissues such as ribs and internal organs (particularly the spleen and liver) may sustain fractures and lacerations. Another factor that influences the severity of blunt force injuries is the length of time the body and the striking object are in contact. A longer period of contact permits kinetic energy to be dissipated over a longer period of time, resulting in less tissue injury than a violent impact with energy dispersion over a short period of time.

Correspondence to: Manfred Peter, Department of Forensic Molecular Biology, Erasmus MC University Medical Center Rotterdam, Rotterdam, Netherlands, E-mail: peter_manfred@erasmusmc.nl

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