

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Hooked to Death: An Unusual RTA: A Case Report.

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ABSTRACT

In almost all instances, road traffic accidents account for the majority of cases that a forensic specialist will have to handle. It is easy to therefore look at them as routine cases where the cause of death will be head injury related or some combination of poly-trauma. Though this is often the case, we normally do not think about or investigate the mechanics of how such accidents occur. Having a cause of death seems to be the only priority. Examining the mechanics would perhaps allow us to give advice on how to prevent such accidents. With the enormous number of road traffic accidents in India, every life saved counts. Herein we present a case involving the pillion rider on a two-wheeler and a truck. The uniqueness of the death involves the fittings attached to the truck, namely the metal chain with its hook used to fasten the back entry. This is, to our knowledge, the first documented case wherein a hook of this kind has dragged a pillion rider off the vehicle and caused death.

Keywords: pillion rider, truck hooks, road traffic accident, head injury

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INTRODUCTION

A Road Traffic Accident (RTA) can be defined as, 'An event that occurs on a way or street open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicle is involved. Thus RTA is a collision between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and geographical or architectural obstacles.' [1] Road traffic injuries (RTI) are a large and growing public health burden, especially in low-income and middle-income countries (LMICs) where 90% of the world's deaths due to RTI are estimated to occur. [2] During 2008, Road Traffic Injuries (RTI) ranked fourth among the leading causes of death in the world. [3] Nearly 1.3 million people die every year on the world's roads and 20 to 50 million people suffer non-fatal injuries, with many sustaining a disability as a result of their injury. [4] Road traffic injuries are the leading cause of death among young people aged 15-29 years and cost countries 1-3% of the gross domestic product (GDP). [4,5]

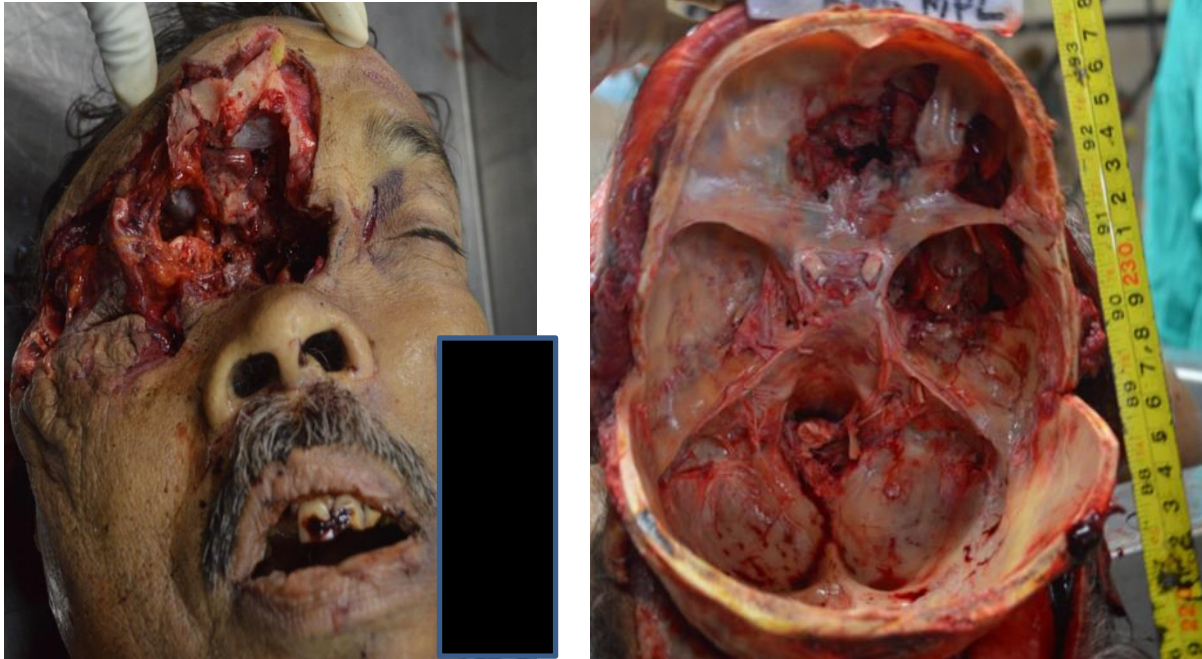
As such the sheer number of accidents lends itself to the laws of probabilities that there will be multiple types of mechanisms that will cause death. But for the forensic investigator in India the main priority is providing the cause of death. Crime scene visits especially for a road traffic accidents is a rarity. Mechanisms that have led to the demise of the individual seem straightforward most of the time. However the forensic pathologist or investigator will still find cases that do not fit into the typical discussion of road traffic accident injuries. In this case, the fastening chain and hook of the back loading bay of the truck were responsible for causing a "fish and hook" scenario, dislodging the pillion rider. This in itself is a unique method of injury causation but the effects are devastating nonetheless.

CASE HISTORY

A 50 year old male was travelling as a pillion rider on a two-wheeler. Injuries were sustained due to the being hooked through the right orbit by the metallic chain of a truck approaching in the opposite direction. The primary injury was a stretch laceration over an area of 13x8 cm, over the right side of the forehead and face, involving the right eye region, leading to the loss of the right eye ball. There were associated underlying fractures of the frontal bone, orbital bones, maxilla and nasal bones. These fractures lines went on to involve the right temporal bone as well. The anterior and middle cranial fossae on the right side had an associated depressed comminuted fracture over an area of 10x5 cm. [Fig 1-3] Intra-cranial injuries consisted of sub-arachnoid hemorrhages, intra-ventricular hemorrhages and contusion necrosis of right frontal and temporal lobes. The cause of death was opined as due to head injury sustained as a result of blunt force trauma to the head.

Figures 1-3





DISCUSSION

In India, the motor vehicle population is growing at a faster rate than the economic and population growth. The surge in motorization coupled with expansion of the road network has brought with it the challenge of addressing adverse factors such as the increase in road accidents.[1] According to the World Health Organization (WHO), road traffic injuries are the sixth leading cause of death in India with a greater share of hospitalization, deaths, disabilities and socio-economic losses in the young and middle-aged population.[6]

Certifying the cause of death in a case of road traffic accident is hardly ever a problem. In many instances an external visual autopsy may be sufficient to conclude the mechanism and cause of fatality. In addition in those cases in which the person has survived for a variable amount of time and has been hospitalized, the autopsy in itself may seem superfluous and unnecessary. But that does not mean an investigation into the circumstances of death should not take place. A lot of research has gone into making automobiles safer for travel. Collision testing, various braking systems, engine immobilization technologies are being constantly being touted as advancements to road safety. However popular perception seems to suggest that these advancements are primarily focused on light motor vehicles and not large motor vehicles or larger passenger vehicles. But there are various types of vehicles that traverse the Indian roads, ranging from the humble bicycle, to large goods carriers. Vehicles which differ in their functionality, purpose, size etc. Another issue that affects safety is passenger loads. In a country of more than a billion people, space is at a premium, especially in this context on roads. Excess passengers in a vehicle of any type decrease the safety trustworthiness of the vehicle. It has been said that seeing Indian families travelling on unstable two-wheelers was what inspired Ratan Tata, the Indian industrialist to push the production of an affordable low-cost car that would allow families to travel safely. We have thus accepted the truth that two-wheelers are inherently less safe than 4-wheelers of any make. The factors are many, both from the machine point of view and the occupant point of view. Stability, maneuverability of the two-vehicle are perhaps the two-factors that come to mind when considering the two-wheeler while rash and risky over taking maneuvers might account for the fatalities when human error is the cause of the accident. Further studies are still required to assess two-wheeler riding patterns that contribute to accidents. This will allow us to perhaps suggest measures to reduce mortality. In this particular case, there was a sequence of events that had to unfold in order for the death to take place.

Chains used to secure the back entry of trucks and goods carriers of various sizes. Almost all of them have hooks attached to them as well that are used to fasten the chain into another fixed hook at the edges of

the vehicle. The sizes of the hooks also vary from the small to the large depending on the size of the truck and loading bay. The size of the metallic chains is usually kept on the longer lengths to allow ease of use. The hooks in themselves qualify to be considered as blunt rather than sharp. So injuries caused secondary to them can be classified as due to blunt force trauma.

Here, the bike and truck were travelling in opposite directions. During an overtaking maneuver, the securing hook and chain not being properly fastened swung with force into the right eye orbit of the pillion rider, thus causing a “fish and hook” scenario and causing the pillion rider to be dislodged from the two-wheeler and suffer fatal injuries. In India wearing helmets are not compulsory in all areas and if so, are sometimes only for the rider. Wearing of helmets for pillion riders is not compulsory pan-India. Though it is difficult to say whether the incident would not have taken place if helmets were worn, the same can be said if either the truck driver or the bike rider had better driving skills. Preventive interventions should be emphasized as the majority of all RTI deaths occurred at the scene of collision, within minutes of collision, and/or involved a head injury. This case demonstrates the role of the forensic investigator in identifying new and unique methods of injury causation in traumatology. Road safety methods may perhaps be given an additional boost if there is better collaboration between not only crime scene investigators and forensic investigators; but better collaboration between those responsible for road safety and those who investigate when fatalities arise.

REFERENCES

- [1] Ruikar M. National statistics of road traffic accidents in India. *J Orthop Traumatol Rehabil* 2013;6:1-6
- [2] Peden M, Scurfield R, Sleet D, et al. World report on road traffic injury prevention: World Health Organization. 2004:1–244
- [3] World Health Organization. Estimates of mortality by causes for WHO member states for the year 2008 summary tables. Geneva: WHO; 2011.
- [4] United Nations Decade of action for road safety 2011-2020. Available from : <http://www.decadeofaction.org> [Last accessed on 2015 Feb 09].
- [5] World Health Organization. Road Traffic Injuries Fact Sheet N0 358, March 2013. Available from: <http://www.who.int/mediacentre/factsheets/fs358/en/> [Last accessed on 2015 Feb 09].
- [6] Ministry of Health and Family Welfare. Integrated Disease Surveillance Project- Project Implementation Plan 2004-2009. New Delhi: Government of India; 2004:1-18.