



Case Report

Accidental Burns in a Road Traffic Accident: A Case Report

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ABSTRACT

As countries experience the 'epidemiological transition' with a relative decline in infectious diseases, accident rates tend to increase, particularly road traffic accidents. The health promotion interventions intended to prevent or minimize the consequences of accidents have been developed in predominantly Western, industrialized countries. Although some of these solutions have been applied with success, but still not yet reached the goal. The injuries and death due to trauma are inescapable in the modern way of life and their correct interpretation is vital to the reconstruction of the events for legal enforcement agencies and their proper management of the injured. This case report highlights the unique burn injuries sustained in a road traffic accident.

Key words: Fatal vehicular accidents; Burns; Head injury.

INTRODUCTION

Road traffic accidents are increasingly recognized as a global public health epidemic. Around the world, almost 16,000 people die every day from all types of injuries. Injuries represent 12% of the global burden of disease, the third most important cause of overall mortality and the main cause of death among 1-40 year age groups. According to WHO data, deaths from road traffic injuries account for around 25% of all deaths from injury. India has one of the highest road accident rates in the world. There has been a steady rise in the casualties in road accidents in the country and their proportions in total deaths due to all accident have also increased considerably in the past. In India, nearly

80,000 get killed and 340,000 are injured every year in about 300,000 accidents on road network of just 22,00,000 km. There is an accident every minute and death every 8 min. with significant variations among different states.

The determinants of Road Traffic Accidents have become a major public health concern worldwide, however, unlike developed or high-income countries; many developing countries have made very little progress towards addressing this problem.

CASE REPORT

On 1st June 2013 at around 12.30 am, the deceased a pillion rider of a motor cycle dashed into a Heavy goods lorry which was parked on a national highway, leading to

break down of the petrol tank causing ignition and the victim succumbed to burns. 6/8/13

External Examination

Dead body of a 21 year old male, moderately built and nourished measuring 5 feet and 3 inches in length Face is disfigured. Pupils dilated and fixed Rigor mortis present all over the body. Smells of petrol present.

External injuries

Dermo epidermal burns present all over the body surface area

Blisters present at places over abdomen and lower limbs, lines of redness present surrounding the burnt area. (fig 1)



Fig. 1. Dead body.

Internal injuries

Skull

Scalp :multiple lacerations measuring 5x3 to 3x2 x bone deep present over left temporo parietal region, on reflection of scalp comminuted fracture involving temporal and parietal bones

Membranes : lacerated

Brain: softened

Thorasic cavity

Fracture of sternum at its middle

Ribs 3rd to 5th ribs fractured at on both sides

Trachea shows soot particles, mucosa is congested

Lungs edematous

Cut section shows soot particles till terminal bronchioles

Heart chambers contains clotted blood, coronaries patent

Other visceral organs intact and congested

External genitalia charred (fig 2)

The above burnt injuries are ante mortem in nature and covers 80-90% of total body surface area.

Opinion

Death is due to neurogenic shock as a result of burns sustained consequent upon road traffic accident.



Fig. 2. Charred dead body.

DISCUSSION

Traffic accident injuries and fatalities are a serious problem all over the world the country's road safety campaigns are inadequate and often limited to festive seasons. At other times, such campaigns are often limited to media and roadside slogans like "drive carefully", "accident kill more passengers", "drive to stay alive", and only

living celebrates". For these campaigns to be effective, they must be implemented 24x7.

The highest numbers of victims (29.4%) are between the age group of 20-29 years. The people of the third decade are more commonly involved in road traffic injuries. Most of the victims are between 15 and 44 years age group. Similar observation was reported by WHO in The Injury Chart book. This shows that the people of the most active and productive age groups are involved in road traffic injuries, which add a serious economic loss to the community. The many studies show that below the age of 14 and above the age of 60 years, the proportion of victims was low. Corresponding findings were reported by Jha *et al.* The male-to-female ratio was 4.6:1. It was observed that 80% of the victims were males. The gender difference is probably related to both exposure and risk taking behaviour. ^[1]

Over 1.2 million people die each year on the world's roads, and between 20 and 50 million suffer nonfatal injuries. Whereas such data on the extent of crashes are available, the studies aimed at estimating losses that are incurred as a result of injuries are limited due to the difficulty in linking the severity of the injury with the subsequent costs. Projections regarding the probable costs of road traffic crashes available at the national and state level are arrived at using crude estimates. Most of these studies on costing of road traffic injuries are based on secondary data collection from insurance agencies and claim tribunals or from hospital bed occupancy. Studies at the family level attempting to uncover the actual costs suffered by the family as a result of the crash are very limited. Thus there exists a large gap in our knowledge regarding the costs suffered by the family. Against this background, this study was conducted with an objective to ascertain the direct and

indirect costs of road traffic injuries and their determinants in an Indian city. It is intended to provide policy makers with a city-level cost data, thus helping to frame a comprehensive road safety policy and counter the increasing trend of crashes. The *direct costs* included the immediate medical costs after the injury, i.e., transport, emergency and hospital care, follow-up care, medicines and appliances, doctor bills, hiring of domestic help, physiotherapy, rehabilitation, insurance, etc. Vehicular repair costs and the cost towards the purchase of an alternative vehicle made as a direct result of the crash were also noted. Cost of damage caused to public or government property was also estimated. The absence of provision of first aid during transport from the crash site to the hospital, as revealed in our study, shows that no attempts are made to provide this crucial care to the victims. Thus precious time, during which the patient probably needs prompt and utmost care, is lost. The reason could be the ignorance of the escorting person about the first aid to be provided. The police personnel are given some form of first aid training. This could be further strengthened by appropriate training by specialists, preferably in acute trauma care facilities.

The fact that more than one third of injury victims needed surgery represents a burden to be handled by the trauma care services due to the crashes. This will directly feed into the surgery costs, a component of the DC. Thus all the factors associated with a better utilization of the golden hour will have a beneficial effect in monetary terms, by cost reduction. ^[2]

Community participation is clearly an attempt to ensure that the health promotion agenda is not simply imposed, but that people are consulted and involved to varying degrees. Failure to entice people to become involved is often seen as a reason

not to pursue particular programme, sometimes to the detriment of that community. The pursuit of engineering measures to promote safety raises a number of difficult issues. Although this approach has led to improvements having been made in developed countries, it can smack of paternalism. It also assumes somehow that those in charge of engineering, of policy making and enforcement are not themselves in possession of 'traditional' or 'fatalistic' views, but have more 'modern' approaches. It may be possible, however, to pursue engineering and enforcement measures, and those which generally help to provide a more 'supportive environment' in ways which are neither paternalistic nor unacceptable to the people. It is a central tenet too of Yoruba belief that one can make efforts to improve one's lot in life and thus 'fatalism' should not be equated with passive resignation. Indeed, the role of the *babalawo* is to give advice about danger avoidance. Again however, this is where more research would illuminate an acceptable strategy. [3]

In most established market economies, injuries are the leading cause of death and of lost disability adjusted life years for those 1–19 years. Injury death rates in low income countries are higher than in industrialized countries. The probability of dying from an injury by age 19 is also much higher in the developing world than in the established market economies. This difference is most likely related to inadequate preventive measures and to poor medical care. Provisions for pedestrians and cyclists are minimal or non-existent in spite of the fact that road traffic is the most important cause of injury in most of these countries. [4]

Burns resulting from motor vehicle accidents are deeper than in general burn population and are also compounded with other injuries. Burns received as a result of

motor vehicle accidents create special problems in their care, as they are frequently severe and are often associated with other injuries, especially fractures which complicate the burn wound care unless surgically stabilized. The injury most commonly associated with death was inhalation injury. [5]

CONCLUSION

The injuries to the skull and the brain are the major and significant contributory factors in the causation of the fatalities on the roads, which resulted from the accidents, many unexpected injuries like burns occur which is a medical emergency. Though a majority of the victims could reach the hospital, they could not be saved due the fatal and irreversible injuries as shown by autopsy also. This emphasizes on a need to develop preventive measures like awareness about traffic rules, the use of seat belts and crush helmets, an improved construction and the maintenance of the roads, better traffic monitoring, the prevention of drunken driving amongst the automobile drivers, and increased road traffic sense in the road users.

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