

Original Article

Prospective Study of Patterns of Injury in Road Traffic Cases

O. Gambhir Singh^{1*} and A.M. Singh²

¹Associate Professor, Forensic Medicine Department, S.R.M. Medical College, Kattankulathur, Tamil Nadu-603203, India

²Professor and HOD, Forensic Medicine Department, M.A.P.I.M.S., Melmaruvathur, Tamil Nadu-603203, India

*Corresponding author email id: drgambhirsingh@yahoo.com

ABSTRACT

It is a prospective study of 65 road traffic injury cases admitted in M.A.P.I.M.S., which is a tertiary health care centre from January 2010 to December 2011. In the present study, male victims (54 cases, 83%) outnumbered the female victims (11 cases, 17%) with an approximate male-female ratio of 5:1. Four wheelers and two wheelers involving mainly pedestrians were the most common cause for fatal head injury seen in 43 cases, 66% cases. Multiple abrasions were the most commonly seen external injury seen in 58 cases, 89% cases. Skull bone fracture was seen in 26 cases, 40% cases. Temporal and parietal bones were the common site of fracture seen in 27 cases, 41% cases. The mean survival period was 73.42 hours, range being 6 hours to 600 hours.

Keywords: Road traffic Accident, Head injury, Fracture, Four wheelers, Two wheelers, Pedestrians

INTRODUCTION

Road traffic injuries are a major cause of death and disability globally, with a disproportionate number occurring in developing countries^[1]. The highest burden of injuries and fatalities is borne disproportionately by poor people in developing countries, as pedestrians, passengers of buses and minibuses and cyclists^[2]. Though M.A.P.I.M.S. is located quite far from the Chennai City area, it experiences quite number of road traffic accident (RTA) cases as it is situated on the GST Road, one of the most busiest national highway in the Southern Region. The incidence RTA case is on the rise because of extension of urbanisation and developing educational institutions in this area. The present study has been carried out to know the various epidemiological, medico legal aspects of vehicular accidents in the region.

MATERIALS AND METHOD

We examined 65 cases of fatal RTA cases which were brought in MAPIMS for treatment during the study period. Railway accident cases were excluded from the present

study. Detail information such as name, age, sex, educational status, profession, date and time of accident, type of injury and other relevant data were noted. Other relevant information was also collected from the hospital investigation records, police papers and relatives. These data were tabulated for easy study and comparison with the previous available studies.

OBSERVATION AND RESULTS

Table 1 shows the distribution of cases according to age and sex of the victim. The ages ranged from 4 to 75 years (the mean age being 51.5 yrs). There was only one case below 10 years of age.

If we combine all four wheelers i.e., bus, truck, car, jeeps and vans together, then it contributes the maximum number of road traffic cases, seen in 29 cases (44.61%). It is followed by cases involving two wheelers, seen in 27 cases (41.54%). Cases due to tractors, bullock carts, etc. which are used by farmers are grouped together under the category 'others', seen in 9 cases (13.85%) as shown in Table 2.

As far profession is concerned, RTA cases are more common in farmers, 27 cases (41.54%) which are followed by unemployed population, 23 cases (35.38%). Professional-wise distribution of cases is shown in Table 3. It is more common amongst illiterate people seen in 37 cases (56.92%) (Table 4).

Head injury emerges as the most important injury in RTA cases, seen in 29 cases, (44.61%). Multiple abrasions and contusions are more common on hands and lower

Table 1: Cases distribution according to age and sex

Age in years	Male	Female	Total	Percentage
0-10	1	0	1	1.54
11-20	10	3	13	20
21-30	26	4	30	46.15
31-40	8	2	10	5.38
41-50	4	2	6	9.23
51-60	2	1	3	4.61
61-70	0	1	1	1.54
Above 70	1	0	1	1.54
Total	52	13	65	100

Table 2: Cases distribution according to vehicle involved

Type of vehicle	No. of cases	Percentage
Bus	6	9.23
Truck	11	16.92
Four wheelers(Car, jeep, van)	12	18.46
Three wheelers	7	10.76
Motorised two wheelers	27	41.53
Others	9	13.84
Total	65	100

Table 3: Cases distribution according to profession

Profession	No. of cases	Percentage
Not applicable	1	1.53
House wife	5	18.46
Unemployed	23	35.38
Farmer	27	41.54
Service	8	12.30
Retired	1	1.53
Total	65	100

Table 4: Cases distribution according to education

Educational status	No. of cases	Percentage
Not applicable	1	1.53
Illiterate	37	56.92
Undergraduate	19	29.23
Graduate	6	9.23
Post-graduate	2	3.07
Total	65	100

Table 5: Cases distribution according to injury

Type of injury	No. of cases	Percentage
Head injury	29	44.61
Fracture of upper limb	11	16.92
Fracture of lower limb	19	29.23
Internal organs	6	9.23
Total	65	100

limbs. Fractures are also more common in lower limbs, seen in 19 cases (29.23%) (Table 5).

DISCUSSION

In the present study, male victims (54 cases, 83%) outnumbered the female victims (11 cases, 17%) with an approximate male-female ratio of 5:1. Similar findings were reported by various researchers^[3-6] and were attributed to the fact that males are more exposed to the outer world than females. Male preponderance was observed in all age groups, most common affected age range being 21-50 years. Similar findings pertaining to age group were also reported by^[3,5,7,8,10]. RTA emerged as the single most common cause for fatal head injury, 29 cases, 44.61% cases. Most of the victims were two wheelers or four wheelers users in the age group of 20 plus-40 years. In this respect, our findings were consistent with the works of^[5,7,9]. In our study, two wheelers contribute the highest number of RTA cases, 27 cases, 41.53%. In Indian scenario, RTA cases involving two wheelers are more or less constant observation. However, in the western countries, the majority of people injured in RTAs are car occupants^[3,5,6,7].

RTA cases are more common amongst the farmers and unemployed category of population. This finding is consistent with the works of other authors^[5,6,8]. The incidence is also high amongst the illiterate and undergraduate population. This may be due to the fact that our tertiary care centre is located about 92 km away from the Chennai city area mainly covering the wide vast village area inhabited by farmers. Its incidence decreases with the increase in age because most of the elderly people will remain indoors.

Abrasions, contusions and lacerations are frequently encountered injuries in RTA cases. Head injury is the single most important injury which governs the prognosis in such cases. It is seen in 29 cases, 44.61% cases.

Fractures in the lower limbs (19 cases, 29.23%) are more common than that of the upper limbs (11 cases, 16.92%). In the lower limb, the fracture of the upper end of tibia is more common. Fracture of shaft of femur or head of femur is rare in the present study. Fracture of pelvic bone was very rare except in one case of run over by a truck. Internal organ injury is seen in 6 cases, 9.23%, laceration of liver being the most common injury type.

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