INVOLVEMENT OF CHILDREN IN ROAD TRAFFIC ACCIDENTS IN EASTERN NEPAL

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INTRODUCTION

An accident has been defined as an unexpected unplanned occurrence which may involve injury (Howgarth 1978). Accidents represents a major epidemic of non-communicable disease in the present century (Park 2000). Since the advent of vehicles, the number of road traffic aciddent has risen proportionate to the number of vehicles manufactured. In many countries, motor vehicles accidents, rank first among all fatal accidents. There are almost 885,000 deaths from RTA annually in the world (WHO 1995). In addition, RTA provide some 10% or more of the average forensic autopsy load (Mason). The term killed (in an RTA) is defined as any person who was killed outright or who died within 30 days as a result of accident (WHO 1984). In a country like ours, with poor roads, ill-managed vehicles, improper rash driving, highway being the sites for play of children and inadequate teaching of traffic rules to drivers as well as its inadequate incorporation in school curriculum leads to increased involvement of children in RTA.

MATERIALS AND METHOD

This is a retrospective study which includes all the autopsies done in the mortuary of BPKIHS, Department of Forensic medicine from July2003 to April 2005, of children lying within the age group of 0 –15 years. The materials used were taken from the mortuary register, autopsy reports and a Performa that was prepared by us. Altogether 17 cases were reported from various districts of eastern Nepal which fulfilled our criteria of study. The obtained data has been presented in the form of various tables and statistical method employed in the data analysis is the percentage method.

RESULTS AND DISCUSSION

It was observed from our total studied cases that children were involved in (11.88%) cases [Table - 1] this finding is supported by the study done by (Kumar 2003). The most frequently involved age group was (6-10 years) in which (58.82%) children suffered injuries, out of which (76.47%) were males [Table -2] and it is supported by a number of studies (Mehta SP, Jha N, Sathiyasakarn BW). Majority of children who suffered injury were pedestrians (walking / playing on road) (94.12%) Numerically the pedestrians suffered most often though the proportion of these walking victims varies greatly according to the traffic patterns of different countries (Simpson's). Only a single victim was the occupant of vehicle (5.88%) [Table-3]. Buses caused maximum number of deaths (47.06%) [Table -4]. Survival period was up to few days in most of the victims (52.94%) and equal proportion (23.53%) of them either died instantaneously or survived for a few hours [Table 5]. Sufferers in most of the cases (94.12%) were hit by the vehicle [Table-6]. One thirds of the victims (33.33%) having fracture of skull vault as well as brain injuries survived for few days and half of the victims (50%) of head injury having fracture of skull vault along with subdural haemorrage had instantaneous death [Table-7]. Half of the victims having pleural and lung injuries survived for few days(22.22%). One fourth of them had instantaneous death (25%) and similar number of victims having soft tissue involvement in addition to pleural and lung involvement survived for few hours (25%) [Table -8]. Half of the victims having liver injuries (50%) and three fourth of injured spleen victims (75%) had few hours of survival.Tthe vast majority of cases of RTA which causes abdominal injuries show liver and spleen rupture (Bernard Knight). One fourth of victims having liver as well as kidney injuries died instantaneously (25%) [Table-9]. Syncope was the mode of death in more than half of the cases (52.94%) and it was followed by coma (41.18%), asphyxia as a mode of death was also not absent in our study (5.88%) [Table -10]

CONCLUSION

Our study revealed that child age group comprised a substantial number of deaths due to road traffic accidents. Involvement of pedestrian in large number reflects the poor management of roads and lack of knowledge regarding traffic safety rules among the children. Most of the deaths were caused by heavy vehicles and death in most of the times occurred after hospitalization (ie. After few days of accident).

Table – 1 Injuries involving children.

Total number of RTA	143
RTA involving children	17(11.88%)

Table – 2 Age (In years) & Gender of Children

Age-Group(Yrs)	Male	Female	Total
0-15	0	1 (5.88%)	1 (5.88%)
6-10	7 (41.17%)	3 (17.64%)	10 (58.82%)
11-15	6 (35.29%)	0	6 (35.29%)
Total	13 (76.47%)	4 (23.53%)	17

Table – 3 Type of victim of accident

Pedestrian	16 (94.12%)
Occupant	1 (5.88%)
Total	17

Table – 4 Type of vehicle

Motorcycle	4 (23.53%)
Jeep	1 (5.88%)
Tractor	3 (17.65%)
Bus	8 (47.06%)
Truck	1 (5.88%)
Total	17

Table – 5 Survival periods

Instantaneous Death	4(23.53%)
Up to few hours survival	4(23.53%)
Survival for days	9(53.94%)
Total	17

Table – 6 Mode of accident

Hit by vehicle	16(94.12%)
Fall from vehicle	1(5.88%)
Total	17

Injuries Vs survival period

Table – 7 Head & neck:

Type	Instantaneous death	Few hours urvival	Survival for days
Fracture of skull -Vault -Base -Face	2(50%)	1(25%)	3(33.33%) 1(11.11%)
Extradural hemorrhage	1(25%)	1(25%)	

Subdural hemorrhage	2(50%)	1(25%)	1(11.11%)
Subarachnoid hemorrhage		1(25%)	1(11.11%)
Intraparenchymal hemorrhage			1(11.11%)
Brain injury			3(33.33%)

Table – 8 Chest

Type	Instantaneous death	Few hours survival	Few days survival
Soft tissue		1(25%)	1(25%)
Ribs fracture			1(25%)
Pleura and lung	1(25%)	1(25%)	2(22.22%)
Pericardium and heart			

Table – 9 Abdomen

Type	Instantaneous death	Few hrs survival	Few days survival
Soft tissues			1 (11.11%)
Peritoneum			2 (22.22%)
Stomach			1 (11.11%)
Liver	1 (25%)	2 (50%)	1 (11.11%)
Spleen		3 (75%)	1 (11.11%)
Intestine		1 (25%)	1 (11.11%)
Kidney	1 (25%)		

Table – 10 Mode of death

Coma	7
Asphyxia	1
Syncope	9

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