

PATTERNS OF HEAD INJURIES AMONG PILLION RIDERS -A RETROSPECTIVE STUDY

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ABSTRACT

India being one of the fastest developing nations in the world with a huge population density, the road traffic density is also increasing. India accounts for about 10% of road accident fatalities worldwide. WHO defined the accident as, “an unexpected, unplanned occurrence that may involve injury”. Head injury has been defined as, “a morbid state, resulting from gross or subtle structural changes in the scalp, skull, and/or the contents of the skull, produced by mechanical forces”. Pattern of injuries among pillion riders are not well studied. A limited number of studies do indicate that there is no significant difference in the severity of injuries sustained by pillion riders and drivers. The aims of the present study were to study the pattern of head injuries in patients involved in two wheeler accidents. The main objective of the present study is to know the patterns of head injury among pillion riders in road traffic accident and also correlate the epidemiological and outcomes of the patients with respect to head injury. The present study concludes that sensitization programme can help to decline of head injuries on road accidents. The policy makers should address these issues urgently on priority basis.

KEYWORDS: Injuries among Pillion Riders -A Retrospective Study

INTRODUCTION

Materials and Methods

The retrospective study was conducted at Department of Emergency Medicine, PESIMR, Kuppam, Andhra Pradesh during the year 2012-2015. The demographic profile and patient history were collected from the pretested questionnaires. Patterns of head injury and causation were collected from the patient care taker with written consent and data was maintained in separate master chart. The mortality was assessed based on the penetration of injury. Clinical and laboratory parameters were obtained and correlate with prognostic factors with respect to patient survivability. Inclusion criteria' all patients admitted in PES hospital with history of head injury due to road traffic accident as pillion rider and patients aged between 14 years to 60 years. Exclusion criteria; patients aged more than 60 years and less than 14 years not with history of malignancy. Collected data was analysed by using SPSS -16.50 versions. Logistic regression and Kaplanmeir mortality statistical methods used to test the hypothesis.

RESULTS

Table 1: Age Distribution of Head Injured Patients Admitted in Casualty

Age Years	No	%	CI-95 %	P-Value
10-20	12	21.81	10-86-13.56	0.00**
21-30	13	23.63	10.63-15.58	0.00**

31-40	9	16.36	6.33-10.22	0.12
41-50	9	16.36	7.02-11.25	0.16
51-60	7	12.72	6.98-8.63	0.11
>61	5	9.09	4.21-8.52	0.16
	55	100		

**, Significant at 1% level ($p < 0.01$), ns-non significant

Table 2: GCS Distribution

Age-Years	No	%	CI-95 %	P-Value
MILD- 14-15	16	29.09	14.23-18.63	0.00**
MODERATE 9-13	24	43.63	22.16-28.63	0.00**
SEVERE 3-8	15	27.27	14.23-17.52	0.00**
Total	55	100		

**, Significant at 1% level ($p < 0.01$), ns-non significant

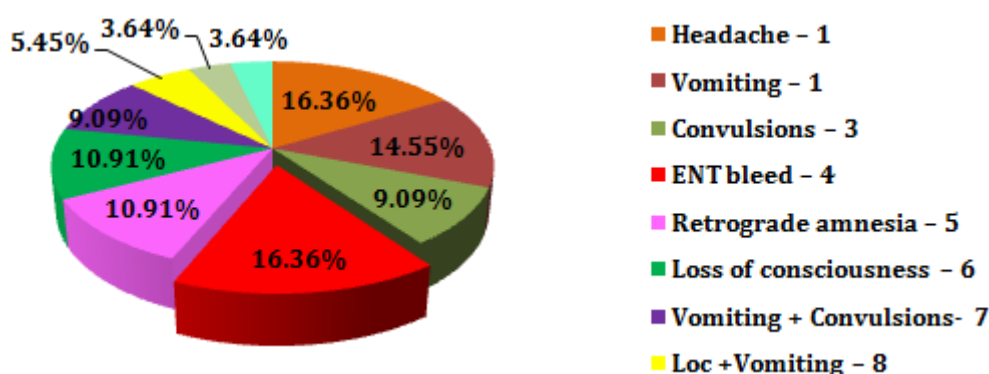


Figure 1: Chief Complaints Noticed Among the Patients

Table 3: Various Mechanism of Injury

Mechanism of Injury	No (%)	%	CI-95 %	P-Value
RTA	17	30.91	14.23-18.63	0.00
Fall from height - 2	12	21.82	10.56-14.44	0.00
Assault - 3	8	14.55	5.63-10.25	0.00
Others - 4	18	32.73	15.42-21.26	0.00
	55	100		

**, Significant at 1% level ($p < 0.01$), ns-non significant

Table 5: EDH of Injury

Parameters	No	CI-95 %	P-Value
EDH			
Right	35	32.16-40.16	0.00**
Left	22	20.14-24.56	0.00**
Right	30	28.14-32.56	0.00**
Left	25	21.66-28.26	0.00**
SAH			
Right	28	27.41-32.18	0.00**
Left	27		0.00**
Contusions			
Right	12	10.05-14.52	0.00**
Left	13	12.53-14.58	0.00**
CT-Brain	6	5.63-7.25	0.16
Normal	24	23.24-28.52	0.00**
Treatment			

Conservative	6	4.58-7.02	0.23
Surgery	5	4.26-6.35	0.22
Disability	6	4.21-8.52	0.16
Recovered	36	34.21-38.16	0.00**
Partially	2	1.41-3.25	0.18
	55		
Mortality			
I day deceased	7	6.32-8.39	0.18
Deceased after one week	3	2.50-4.63	0.41

** , Significant at 1% level (p<0.01)

DISCUSSIONS

A study was conducted by PESIMR Kuppam about the patterns of head injury among drivers and pillion riders of motorised two wheeled vehicles in State highway and they concluded that injuries of drivers with helmet was compared to those in drivers not wearing helmet and incidence of mild head injury are more common in pillion riders. Another similar study was done by Ravikumar in 2009, Patterns of Head Injuries in Road Traffic Accidents Involving Two wheelers: An Autopsy Study and they noticed that human error is mainly responsible for the fatal RTA and linear fractures are commonest pattern of fractures. Subduralhemorrhage was also the commonest intracranial haemorrhage and rib fractures were commonly associated with head injuries. The pattern of head injuries among victims of road traffic accidents in a tertiary care teaching hospital. They noticed young males driving two wheeler motorized are at increased risk of road traffic accident leading to head injury. One more study was conducted by Ranjit M and Keoliya about the Patterns of head injuries in fatal road traffic accidents in a rural district of Maharashtra- Autopsy based study and noticed that Linear fracture of skull with basal fracture was the commonest type and temporo-parietal region was involved predominantly. Subdural haemorrhage was the commonest haemorrhage observed. The present study describes the epidemiological patterns of head injury in a newly established neurosurgical service: one-year prospective study and noticed that head injury is a disease afflicting mainly young males, and road traffic accident is the most common aetiological factors. The Incidence and severity of head and neck injuries in victims of road traffic crashes: In an economically developed country. They found the incidence of head and neck injuries were high in Qatar and need for taking urgent steps for safety of people.

CONCLUSIONS

The present study concludes that sensitization programme can help to decline of head injuries on road accidents. The policy makers should address these issues urgently on priority basis.

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