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TYPES OF HEAD INJURIES ASSOCIATED WITH MOTOR CYCLE ACCIDENTS IN PORT HARCOURT

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ABSTRACT

A retrospective study that involved 716 types of head injury associated with motorcycle accidents of patients who present to Accident and Emergency Department of Port Harcourt Teaching Hospital, Rivers state between January 2001-December 2005. The common type of head injuries associated with motorcycle accidents are scalp lacerations 36.6% (males 26.8% and female 9.8%), skull fractures 32.4% (males 20.7% and female 10.7%) and intracranial haemorrhages 21.1% (males 13.6% and females 7.5%) during the period under review. The most common head injuries from motorcycle accidents are scalp lacerations, skull fractures, cerebral injuries and intracranial haemorrhages. Head injury death from motor cycle accidents claims lives more than three thousand people every year worldwide.

KEYWORDS: haemorrhages, skull fractures, cerebral injuries.

INTRODUCTION

Fracture of the base of the skull is another type of common head injury associated with motor cycle accidents. Study carried out by Konrad *et al*. (1996) revealed information on the influence of the mass of the helmet on the pattern of head injuries suffered by motor cyclist involved in collisions is scare. This study was undertaken to verify a possible connection between weight of the helmet worn and the occurrence of a ring fracture of the base of skull surrounding the foramen magnum. One hundred and twenty two fatally injured motorcyclists were studied retrospectively. Data including the autopsy report were obtained from police files. All helmets were studied in a technical laboratory.

The pulsates, in synchrony with the radial pulse, a phenomena known pulsating exophthalmos. These include:

i. Skull fracture (haemorrhage, dural sinus thrombosis, infection, damage to structures transversing the skull).
ii. Intracranial haemorrhage (subarachnoid haemorrhage, extradural haemorrhage, subdural haemorrhage.
iii. Cerebral injury (cerebral concussion, cerebral contusion, cerebral lacerations, brain swelling).
iv. Scalp lacerations.

The most common head injuries from motorcycle accidents are scalp lacerations, skull fractures, cerebral injuries and intracranial haemorrhages. Head injury death from motor cycle accidents claims lives more than three thousand people every year worldwide. About fifty thousand people are injured in motorcycle accidents every year in Nigeria roads.

The Glasgow coma scale can be used to determine the extent of head injury. This scale is based on a patient's ability to open his or her eyes, gives answer to questions and responds to physical stimuli, such as a doctor's touch. A score less than eight points on the scale suggests the presence of serious brain damage (www. Fag.org/head-injurthtml).

MATERIALS AND METHOD

The objective of the study is to investigate the types of head injury associated with motorcycle accidents of patients who present to Accident and Emergency Department of Port Harcourt Teaching Hospital, Rivers state between January 2001-December 2005.

Medical records of five hundred and seventeen patients (517) with head injuries associated with motorcycle accidents were studied. Data containing patients name, sex and age was collected from admission and discharge register of the Accident and Emergency (A and E) Department, together with the type of head injury involved and the management.

Patients with head injuries as a result of motorcycle accidents i.e those hit by motorcycle while walking or crossing the road (pedestrians), those that were passengers (pillion riders) with a motorcyclist when an accident occurred either with another motorcycle or a vehicle. The type of head injury of each patient, age, sex, and final report (either discharged or died) was recorded for the period under review. Those with Glasgow coma of less than eight were

said to have severe head injuries and were transferred to the intensive care unit for proper management.

RESULTS

Types of head injuries associated with motorcycle accidents and their occurrence, University of Port Harcourt Teaching Hospital (January 2001-December 2005).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures	148	20.7	77	10.7	225	31.4
Intracranial Haemorrhages	97	13.6	54	7.5	151	21.1
Cerebral injuries	46	6.4	32	4.5	78	10.9
Scalp lacerations	192	26.8	70	9.8	262	36.6
Total	485	67.5	233	32.5	716	100

The common type of head injuries associated with motorcycle accidents are scalp lacerations 36.6% (males 26.8% and female 9.8%), skull fractures 32.4% (males 20.7% and female 10.7%) and intracranial haemorrhages 21.1% (males 13.6% and females 7.5%) during the period under review.

Table 2: Types of Head injuries associated with motorcycle accidents (Jan 2001-Dec 2001).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures	40	21.6	18	9.7	58	31.3
Intracranial Haemorrhages	30	16.2	15	8.1	45	24.3
Cerebral injuries	11	6.0	7	3.8	18	9.8
Scalp lacerations	52	28.1	12	6.5	64	34.6
Total	133	71.9	52	28.1	185	100

Table 3: Types of Head injuries associated with motorcycle accidents (Jan 2002-Dec 2002).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures	28.0	19.7	20.0	14.1	48	33.8
Intracranial Haemorrhages	17.0	12.0	12.0	8.4	29	20.4
Cerebral injuries	3	2.1	8	5.7	11	7.8
Scalp lacerations	39	27.4	15	10.6	54	38.0
Total	87	61.2	55	38.8	142	100

Table 4: Types of Head injuries associated with motorcycle accidents (Jan 2003-Dec 2003).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures	20	18.7	18	16.8	38	35.5
Intracranial Haemorrhages	16	15.0	4	3.7	20	18.7
Cerebral injuries	8	7.5	6	5.6	14	13.1
Scalp lacerations	25	23.4	10	9.3	35	32.7
Total	69	64.6	38	35.4	107	100

Table 5: Types of Head injuries associated with motorcycle accidents (Jan 2004-Dec 2004).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures	39	21.8	12	6.7	51	28.5
Intracranial Haemorrhages	23	12.9	18	10	41	22.9
Cerebral injuries	11	6.1	7	3.9	18	10.0
Scalp lacerations	48	26.8	21	11.8	69	38.6
Total	121	67.6	58	32.4	179	100

Table 6: Types of Head injuries associated with motorcycle accidents (Jan 2005-Dec 2005).

Types of Head injuries	Males	% of Male involved in the motorcycle accident	Females	% of female involved in the motorcycle accident	Total	% of total
Skull fractures						
Intracranial Haemorrhages						
Cerebral injuries						
Scalp lacerations						
Total						

DISCUSSION

There is a consistency in the nature of head injuries sustained in motorcycle accidents. From January 2001- December 2005, a total of 716 head injuries were recorded in this study. Scalp lacerations accounted for 262 injuries (36.6%) of the total head injuries; Skull fractures accounted for 215 (31.4%) of the total head injuries, intracranial haemorrhages accounted for 150 (21.1%) of the total head injuries and cerebral injuries accounted for 79 injuries (10.9%) of the total head injuries.

The highest occurrence of skull injury was seen in scalp laceration, followed by skull fractures. Although from the medical records, it was noticed that two or more of these head injuries occurred in a patient that is, a victim could have skull fracture with intracranial haemorrhages thereby falling into the two groups; while some could have scalp lacerations which bleed profusely because of the arteries entering the periphery of the scalp bleed from both ends because of abundant anastomoses and this could result to cerebral concussion which is an abrupt, brief loss of consciousness immediately after a head injury and is classified under cerebral injuries.

Head injury death from motor cycle accidents claims lives more than three thousand people every year worldwide.

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