

Original article:

Etiopathological study of head injury cases admitted in Urban set up: Retrospective study

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Abstract:

Introduction: Glasgow coma scale is widely used and accepted criteria for assessing head injury cases . The numerical grading of three separate responses provided degree of flexibility in defining the continuum of altered level of consciousness. Head injuries are including both injuries to the brain and those to other parts of the head, such as the scalp as well as skull. Head injuries can be closed or open in nature.

Methodology: The present study was retrospective study. The sample size was estimated with the help of expert. Out of 100 cases of head injuries attended in emergency department of our Hospital, 88 were admitted and out of them 76 patients need operative intervention. We prepared and collected data of these clinical and etiological aspects was included criteria. We collected data from records from last five years.

Results: In our study recovery was seen good (95%) in patients having fracture injury without pathology .

Conclusion: Our study concluded that generalized cerebral edema is to found more common.

Introduction:

Head injury usually accounts for the major proportion of case fatalities in studies that examine the burden of road-traffic injuries (RTI), also known as road-traffic accidents . Glasgow coma scale is widely used and accepted criteria for assessing head injury cases . The numerical grading of three separate responses provided degree of flexibility in defining the continuum of altered level of consciousness. Head injuries are including both injuries to the brain and those to other parts of the head, such as the scalp as well as skull. Head injuries can be closed or open in nature. ¹

A head injury is a broad term that describes a vast array of injuries that occur to the scalp, skull, brain, and underlying tissue and blood vessels in the head. Head injuries are also commonly referred to as brain injury, or traumatic brain injury (TBI), depending on the extent of the head trauma.²

The mechanical brain damage that occurs at the time of injury cannot be repaired or reversed by therapy. But management should ensure that secondary damage does not occur. The primary neurological management is the identification and rapid treatment of localized mass lesion and raised intracranial pressure.²

Methodology

The present study was retrospective study. The sample size was estimated with the help of expert. Out of 100 cases of head injuries attended in emergency department of our Hospital, 88 were admitted and out of them 76 patients need operative intervention. We prepared and collected data of these clinical and etiological aspects was included criteria. We collected data from records from last five years.

The patients having history of antecedent head injury were examined.

We used Glasgow coma scale to assess level of consciousness. It includes three responses viz. eye opening, best motor response and best verbal response. Accordingly patients can be categorized as mild (13-15). Moderate (9-12) or severe (3-8).

The Glasgow Coma Scale is a neurological scale which aims to give a reliable and objective way of recording the conscious state of a person for initial as well as subsequent assessment. A person is assessed against the criteria of the scale, and the resulting points give a person's score between 3 and either 14 or 15.

Results:

The data was collected and filled in excel sheet. Analysis was done.

Table 1) Gender wise distribution:

	Number of cases (N)	Percentage (%)
Male	82	82
Female	18	18

Table 2) Patients needed operative intervention (76%)

	Number of cases (N)	Percentage (%)
Male	64	64
Female	12	12

Table No. 3: Recovery and Investigations

Type of Injury in admitted patients (N=100)	Recovery in Cases (%)
Generalized Cerebral Edema (N= 88)	93
Fracture without pathology (N= 23)	95
Subdural hematoma (N=41)	84
Extra dural Hematoma (N=12)	78
Intracranial Hemorrhage (N= 16)	91

In our study recovery was seen good (95%) in patients having fracture injury without pathology .

Discussion:

There are many causes of head injury in children and adults. The most common traumatic injuries are from motor vehicle accidents (automobiles, motorcycles, or struck as a pedestrian), from violence, from falls, or as a result of child abuse. Subdural hematomas and brain hemorrhages (called intraparenchymal hemorrhages) can sometimes happen spontaneously.

Head is one of the most accessible and vulnerable to injury.³

When there is a direct blow to the head, shaking of the child (as seen in many cases of child abuse), or a whiplash-type injury (as seen in motor vehicle accidents), the bruising of the brain and the damage to the internal tissue and blood vessels is due to a mechanism called coup-countercoup. A bruise directly related to trauma, at the site of impact, is called a coup (pronounced *COO*) lesion. As the brain jolts backwards, it can hit the skull on the opposite side and cause a bruise called a countercoup lesion. The jarring of the brain against the sides of the skull can cause shearing (tearing) of the internal lining, tissues, and blood vessels that may cause internal bleeding, bruising, or swelling of the brain.⁴

The full extent of the problem may not be completely understood immediately after the injury, but may be revealed with a comprehensive medical evaluation and diagnostic testing. The diagnosis of a head injury is made with a physical examination and diagnostic tests. During the examination, the doctor obtains a complete medical history of the patient and family and asks how the injury occurred. Trauma to the head can cause neurological problems and may require further medical follow up.^{5,6}

Continued and facility based injury surveillance helps in understanding the effects of trauma to the head and facility preparedness in trauma care. Vehicle usage is related with age and gender of the population. The present study observed peak injury incidence at the age group of 20-40 years as reported in other studies³. Male involvement found to higher (82%) as predisposed to vehicular mobility and reported from other evidences. Work timings associated with high traffic congestion on the road found to be associated as in present study, majority of the incidents occur morning and evening hours as reported earlier in India .

Conclusion:

Our study concluded that generalized cerebral edema is to found more common.

References:

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