

A Sensible Approach to Pediatric Mild Traumatic Brain Injury: New Roads and New Vistas

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Editorial

Traumatic brain injury still remains a major cause of mortality and morbidity. In the United States, incidence of traumatic brain injury in the pediatric age group is approximately 180 per 100,000 population, while the majority (75%) of pediatric head trauma is categorized as mild traumatic injury of brain (mTBI). Expenditure over \$1 billion is needed every year by health system in the United States alone for the management of pediatric traumatic brain injury. The management of pediatric cases possesses a great challenge to the treating pediatrician, neurosurgeon specially, while putting request for computed tomography scan or other imaging studies, deciding management plan either institutional observation or to discharged to home and regular follow-up in the outpatient department [1-3].

According to the criteria devised by mild traumatic brain injury committee, American congress of rehabilitatory medicine; a child suffering with injury to be labelled as mild have at least one manifestations among the following including, loss of consciousness, loss of memory regarding events following or preceding accident, alteration in mental status of the victims at time of injury e. g. confusion, disorientation or feeling of dizziness and the last focal neurological deficit of transient or permanent. However, the duration of loss of consciousness should not exceed half an hour and duration of post traumatic amnesia not more than twenty four hours and initial Glasgow Coma Scale score within the critical range of 13-15 [4]. Further, according to the Children's Hospital of Philadelphia Practice Guidelines, pediatric mTBI should have initial evaluation, Glasgow Coma Scale within a GCS of 14-15 and must not have associated focal neurologic deficits [5].

The Pathophysiology of mTBI is a complex cascade of interaction of direct and indirect mechanisms are involved. In the post-traumatic phase is associated with alteration in the cerebral blood flow and its auto regulation responsible for clinical symptomatology of MTBI. Histopathological changes are transient, but repetitive phenomena. Recently, several proteins are also identified that can also act as diagnostic and prognostic MBTI biomarkers [6,7].

About 6 to 8% mTBI have patients can have radiologically detectable change detected on computerized tomography scan and these may include brain contusions subarachnoid hemorrhage, extradural hematoma, petechial hemorrhage and cerebral edema [8].

The Centers for Disease Control and World Health Organization promote of term "concussion" over the mTBI, however, use of such terminology remains controversial as terms are still used interchangeably [9].

Mild traumatic injury of brain still continues to be a major health hazard affecting pediatric population, however, improving analytical tool, usage of modern diagnostic imaging studies and future research will throw light on better understanding of pathophysiology and its management.

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