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A clinical audit to explore the clinical and radiological variables associated with Traumatic Brain Injuries (TBI) in Palestine

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Introduction & Aim: Traumatic Brain Injury (TBI) is a leading cause of death and disability worldwide. It affects mainly young people aged 15-24 years, severely disabling 150-200 people per million annually. Management of TBI is highly variable and depends on the severity of the illness. The objective of our study was to explore the epidemiology of TBI, highlight the mechanism of injury, distribution of TBI and to evaluate the clinical and radiological presentation of patients with TBI at a level-one-trauma center in Palestine.

Methods: In this retrospective study, all patients with head trauma who were admitted to the emergency and/or neurosurgery departments at Palestine Medical Complex (PMC)/Ramallah over a 51 day period (Feb 17th 2017-Apr8th2017) were enrolled. Exclusion criteria involved: patients with a neurological illness or any other medical condition, patients with missed phone numbers, subjects discharged against medical advice. The demographical data, mode of injury, clinico-radiological features and management were studied. Post-resuscitation GCS was used to classify the severity of head injuries as mild (GCS \geq 14), moderate (GCS 9-13), and severe (GCS \leq 8). Microsoft Office Excel 2007 and IBM SPSS Statistics version 20 was used for data analysis.

Results: A total of 99 patients were analyzed with a mean age of 10.3 years (range 0.5-49 years.). Males predominated 65.6% (n=65) and females were 34.4% (n=34). The most commonly affected age group was 2-15 years (61.6%). Fall from height was the most common mechanism of injury (50.5%), followed by direct blow (36.4%) to the head, road traffic accident (11.1%) and work accident (2%). The occipital area (29.3%) of head was involved in most of the cases, followed by the frontal area (27.3%), right side (17.2%), left side (12.1%), central area (9.1%) and face (5%). The majority of patients (75.8%) had mild (GCS \geq 14), 22.2% had moderate (GCS 9-13) and 2% had severe (GCS \leq 8) TBI. On radiology, an overwhelming number of patients (78.8%) had a normal CT scan. However, epidural hematoma was seen in 7 (7.1%) patients, brain contusions in 7 (7.1%), depressed fractures were evident in 5 (5%) and traumatic subarachnoid hemorrhage in 2 (2%).

Conclusion: This is the first clinical audit to explore demographics and clinical variables of TBI patients in Palestine. While our findings are consistent with the available literature, it highlights for service providers the nature of injuries we face. It also draws attention of public health services to the patient age group that needs to be educated to reduce the incidents of such injuries. This study is limited by a small number of patients and short duration.

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