Paediatric intentional head injuries in the Emergency Department. A PREDICT multicentre prospective cohort study


Aims

While the majority of head injuries (HIs) in children are non-intentional, there is limited information on intentional HIs outside abusive head trauma. The objective of this study was to describe epidemiology, demographics and severity of intentional HIs in childhood in a multicentre study in Australia and New Zealand.

Methods

Planned secondary analysis of a prospective multicentre cohort study of children aged <18 years across 10 centres in Australia and New Zealand between April 2011 and November 2014. Victorian state epidemiology codes (intent, activity, place, mechanism) were used to prospectively code the injuries. Clinical information including history of injury event and examination findings were collected and data were descriptively analysed.

Results

Intentional injuries were found in 372 of 20 137 (1.8%) head injured children. Injuries were caused by caregivers (103, 27.7%), by peers (97, 26.1%), by sibling (47, 12.6%), due to attack by stranger (35, 9.4%), by person with unknown relation to patient (21, 5.6%), intentional self-harm (7, 1.9%), legal intervention (1, 0.3%) or undetermined intent (61, 16.4%). 75.7% of victims of assault by caregiver were under 2 years old, whereas for other causes only 4.9% were under 2 years. Overall, 66.9% of victims were male. Rates for admission, CT scan and abnormal CT rates varied from 77.7%, 68.9% and 47.6% for assault by caregiver, 37.1%, 37.1% and 5.2% for attack by stranger, 23.7%, 18.6% and 5.2% for assault by peer and 8.5%, 2.1% and 2.1% for injuries caused by sibling respectively.

Conclusion

Intentional head injuries are infrequent in children. The most frequent cause is injury by caregiver or peer assault. HI due to assault by caregiver results in more abnormal findings on a CT scan than other mechanisms of intentional HI.