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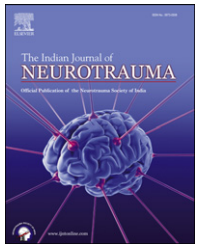

Case Report

Inflicted head injury in a child masquerading as child abuse

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ABSTRACT

In low- and middle-income countries childhood injuries and violence becoming a significant and growing cause of child death and disability and in spite of its significance, the issue of childhood injuries and violence has been only minimally addressed. We present an unusual case of head injury in a child where the child was hit by her fellow colleague, and the lesions were masquerading the injuries of child abuse. Although it was difficult to find out the exact motive, probably it was an act of non-deliberate injury. However an early onset of delinquency can increase the risk of later serious, violent, and chronic offending, hence further research is needed specifically on juvenile violence.

1. Introduction

In low- and middle-income countries childhood injuries and violence becoming a significant and growing cause of child death and disability and in spite of its significance, the issue of childhood injuries and violence has been only minimally addressed.[1] We present an unusual case of head injury in a child where the child was hit by her fellow colleague, and the lesions were masquerading the injuries of child abuse.

2. Case report

A four year female child was brought to the casualty by her grandparents with the history of head injury (initially the details of incident including mode of injury were not known). She was unconscious since she was found at the scene of incident. She had multiple episodes of vomiting and 2 episodes of generalized tonic–clonic seizures. On examination her general and systemic examination was unremarkable. Neurologically she was unconscious (Glasgow coma scale – 7/15, E1V1M5). She was moving all four limbs equally and there was no facial asymmetry. Pupils were bilateral equal and reacting to light. Fundus was normal. There was no evidence of retinal hemorrhages. Local examination revealed scalp swelling involving both parietal and temporal regions, bilateral black and bluish discoloration over both the mastoids (Battle's sign-left more than right) (Fig. 1). Computerized tomography (CT scan) brain showed biparietal linear, undisplaced fracture running in the coronal plane (almost in midpart of the head) with thin acute interhemispheric subdural hematoma (Fig. 2). The child recovered with conservative management. In view of multiple and unusual injuries, a diagnosis of child abuse was

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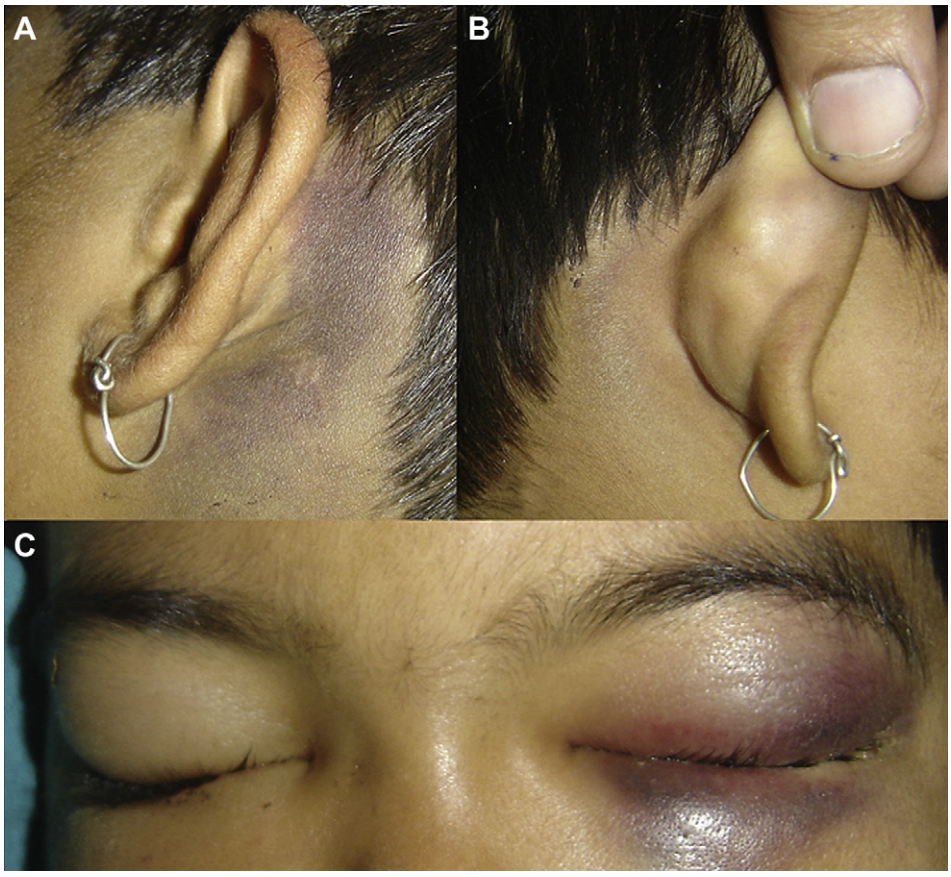

Fig. 1 – Clinical photograph showing bluish discoloration over the mastoid processes (A and B) and bilateral black eye (C).

suspected. However when the child regained consciousness (after three weeks of injury), she admitted that she was hit by her fellow colleague.

3. Discussion

Inflicted head injuries in younger children can account for a substantial portion of serious injuries leading to pediatric hospital admissions.[2,3] It has been widely explained in the literature that short falls (<4 feet) do not cause serious injuries in children (except epidural hematoma, which commonly occurs after short falls)[4–6] also the simple skull fractures are commoner than complex skull fractures in accidental falls.[5,7] More serious injuries like acute subdural hematomas and subarachnoid hemorrhages are seldom seen.[5,7] When there is presence of severe head injury and a constellation of findings including subdural hematoma, subarachnoid hemorrhage, retinal hemorrhages, and associated cutaneous, skeletal, and visceral injuries with no history or with a history of short falls than a diagnosis of inflicted head injury than accidental injury is to be suspected.[2,5,7–9] Although, the most common mechanisms of accidental head injury (a linear or translational impaction force) produce a linear skull fracture, extradural hematoma, localized subdural hematoma, or cortical contusion and falls from heights can produce higher impact forces that can produce depressed or comminuted skull fracture, subarachnoid hemorrhage, or cortical contusions.[10] In our patient initially the history was not clear, the child sustained severe head injury and atypical location of the fracture line (to produce symmetrical biparietal coronal fracture either the child should fall vertically or to be hit by some object) made us to suspect the diagnosis of either child abuse or inflicted head injury. However the absence of other systemic injuries and absence of retinal hemorrhages was not favoring the diagnosis of child abuse as in literature it has been described that the finding of retinal hemorrhage is nearly diagnostic of child abuse.[2,11] Although Battle's sign is a classical clinical sign that has been held to be synonymous with fracture of the basal skull, rarely it can present in patients without head injury.[12] In present case presence of Battle's sign without fracture of the temporal bone can be explained by the fact that trickled blood from fractured biparietal bones and scalp hematoma would had lead to the bluish discoloration over the mastoids. Assault by a child resulting in a significant head injury was surprising. Although in literature, the topic of epidemiology of juvenile violence is discussed in only few studies,[13] it is recognized as a major public health problem with far reaching consequences not only on the child and the family but also on society.[14] Although it was difficult to find out the exact motive, probably it was an act of non-deliberate injury. However an early onset of delinquency (prior to age 13 years) can increase

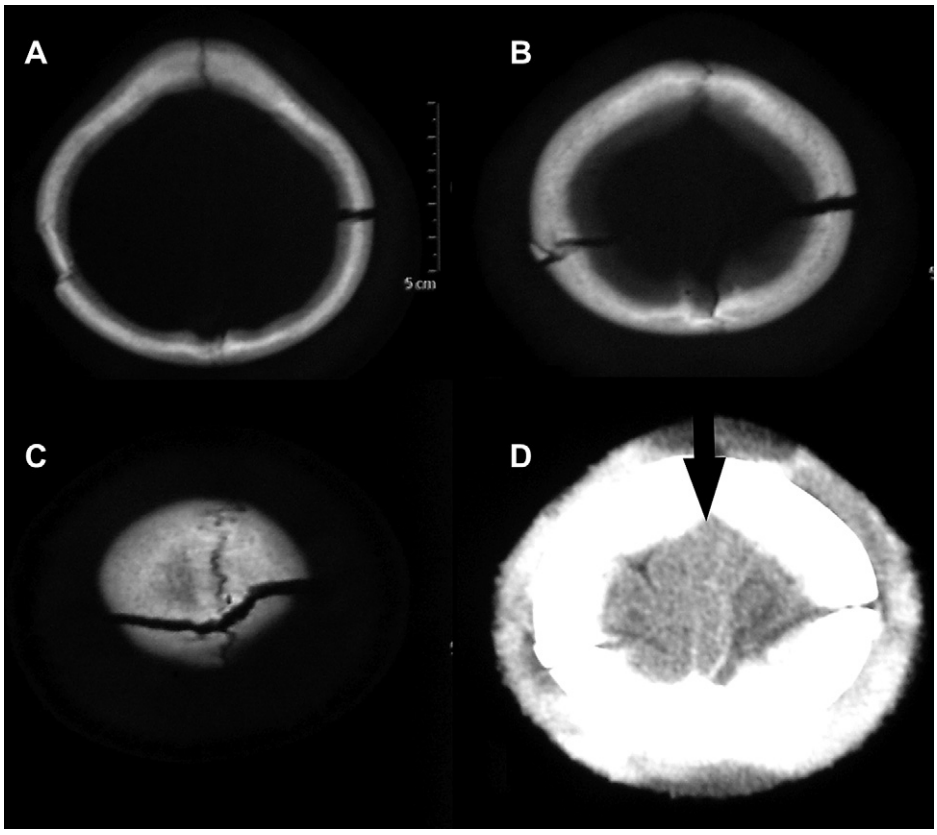

Fig. 2 – CT scan brain with bone window showing non-displaced, linear, biparietal skull fracture (A–C) with thin acute interhemispheric subdural hematoma (arrow in D).

the risk of later serious, violent, and chronic offending,[15] hence require further research specifically on juvenile violence.[13]

Conflicts of interest

The author has none to declare.

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