Spontaneous Reduction of a Closed Depressed Skull Fracture in a Child: Case Presentation

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Abstract
Depressed skull fractures account 2.5% of head trauma of childhood head trauma. They can be classified as open or closed and most of the open fractures require surgical intervention and closed ones could be followed-up when they fulfill indications such as absence of neurological deficit. Literature has examples of spontaneous healing of depressed fractures that did not undergo surgery. This report aims to present a severe depressed skull fracture that was managed conservatively.

Keywords: Depressed; Skull; Fractures; Head trauma; Surgery; Remodeling

Case Report
A 12-year-old male was admitted due to head trauma after a fall from 5 m height. He had no neuro deficits. His computerized tomography (CT) revealed a closed depressed skull fracture at the left parieto-occipital region. His magnetic resonance imaging revealed compromise in superior sagittal sinus. His family was offered a reduction surgery; however, parents refused any surgical intervention. His follow up period was uneventful, and he was discharged at the 7th day of trauma. His control imaging at the 3rd year of the event revealed significant remodeling of the calvaria (Figure 1).

Discussion
Children have flexible bone structures due to lower mineralization and flexible suture lines. Additionally, they have higher osteogenic potential when compared to adults due to extensive vascularity. These properties of young patients pose a chance for spontaneous healing of depressed skull fractures. Hung et al have published a case series of depressed skull fractures that were successfully managed with conservative treatment.

Conclusion
Patients presenting with depressed skull fractures that do not have significant intracranial pathologies such as hematomas or brain damage and fully awake, neurologically intact patients could be closely followed up after a head trauma without surgery. However, one should remember that not performing surgery could bare its own risks such as cosmetic deformity or epilepsy in the long term.