

LETTER-TO-EDITOR

Elevated Skull Fracture

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INTRODUCTION

Traditionally, the skull fractures are characterized by their pattern (i.e., linear, diastatic, comminuted, and depressed), by their anatomic location (convexity, basal), and by their type (simple, compound).¹⁻³ Recently, the elevated variant of skull fractures in which the fractured fragment is elevated above the level of the skull has been increasingly recognized as a separate entity.^{2,4-13} A 43-year-old man was assaulted by a sickle over his head. He had transient loss of consciousness for 10 minutes. There was no history of seizures, vomiting, or ear bleed. At the time of examination, he was conscious, alert, and oriented. Glasgow Coma Score was E4V5M6. Pupils were bilateral equal and reacting to light. Motor and sensory examination was normal. Local examination revealed a large scalp laceration with active bleeding and palpable skull fracture. Pressure bandage was applied over the wound to control bleeding. X-ray skull showed an elevated fracture involving the left temporoparietal bone (Fig. 1). An urgent computed tomography (CT) scan of the brain was performed and it showed an elevated left temporoparietal bone, without any underlying parenchymal injury (Figs 2A to D). There was no evidence of cerebrospinal fluid leak. The patient was managed conservatively and the wound was sutured. He made an uneventful recovery.

Elevated skull fractures can result due assaults (by sharp weapons), domestic accidents, and road traffic accidents.^{5,6,8,9} In contrast to the depressed skull fractures

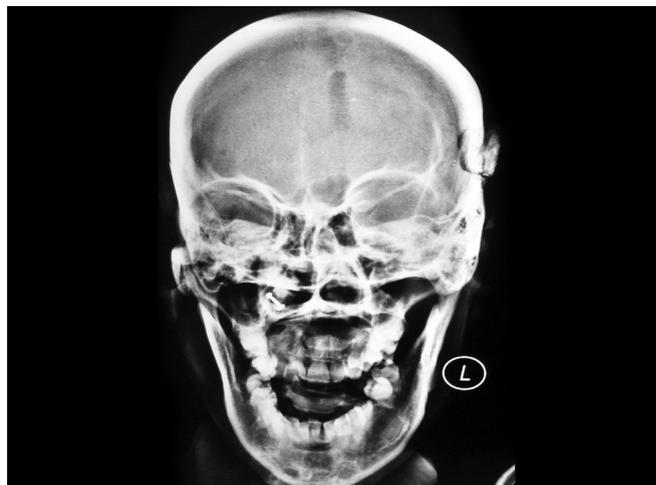


Fig. 1: X-ray skull anteroposterior view showing elevated fracture involving left temporal and parietal bone

where the wounding is directed inward and the fracture fragments are driven intracranially; in cases of elevated skull fractures, the direction of the force is tangential to the calvarium and causing elevation the skull fracture by lateral pull of weapon.^{2,4-6,10} Most of the elevated skull fractures are compound injuries with injury to the scalp and to the underlying dura.^{5,8} The severity of the injury depends on the injury to underlying brain parenchyma and may range from minor ones (as in present case) to gross neurological deficits.^{2,5-10} Although the x-ray the elevated fractured fragment, but the CT scan will provide greater details of associated parenchymal injuries and hematomas.^{2,5,8,14} The basic principles for the management of elevated compound fractures are almost similar to the compound depressed fractures, i.e. adequate debridement, thorough wound wash, dural repair, and broad-spectrum antibiotics including coverage of anaerobes.^{2,4-12,14} In present case as there was no underlying brain injury or hematoma, we managed the patients conservatively with good outcome. Unless associated with significant underlying parenchymal injury, the elevated skull fractures have a more favorable outcome than compound depressed fractures.^{4-6,8}

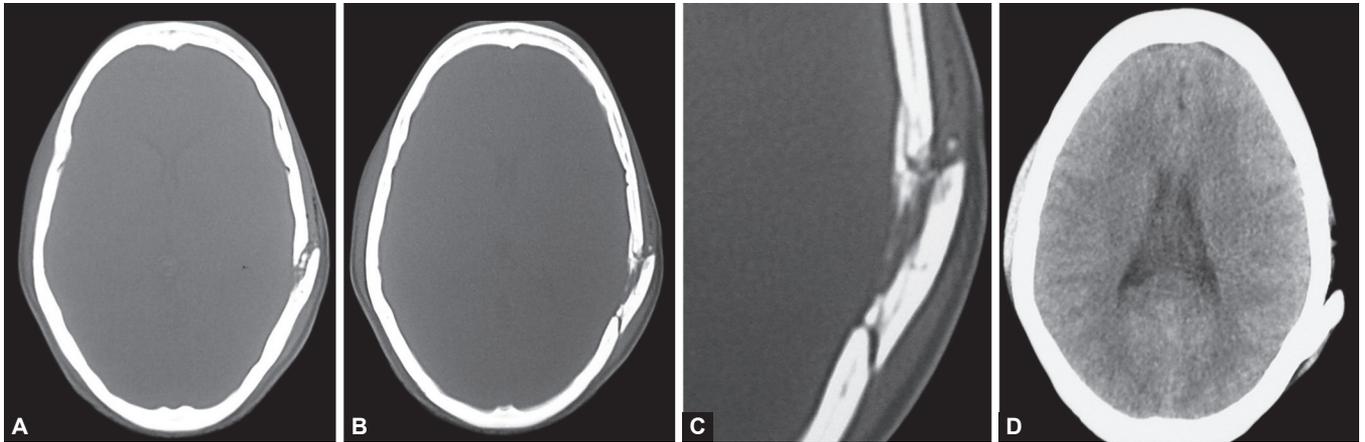
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Figs 2A to D: Computed tomography scan brain bone and brain window showing the elevated fracture involving the left temporal and parietal bone without any underlying parenchymal injury

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