Contrecoup Extrudal Hematoma Without Fracture: A Case Report and Review of Literature

Abstract
Extradural hemorrhages are commonly seen in coup head injuries, rarely seen in contrecoup head injuries. Acute extradural hemorrhage in the coup head injuries associated with a fracture is common, but the incidence of acute contrecoup extradural hemorrhage not associated with the fracture is extremely rare. Only 21 cases have been reported previously. A 28-year-old male patient presented to the emergency department with complaints of sustaining injuries in a road traffic accident by fall from a two-wheeler. No history of loss of consciousness, vomiting, seizures, and ear/nose bleed. On examination, the patient was conscious and coherent with a Glasgow Coma Scale score of 15/15 and a laceration on the right frontotemporal region which was sutured. Contrast tomography of the brain revealed an extradural hemorrhage of 10 mm thickness in the left parieto-occipital region with soft tissue swelling in the right temporoparietal region, without any evident fractures in the calvarium. The patient was managed conservatively. Contrecoup extradural hematoma is a rare entity, and those without fracture are extremely rare. Early diagnosis, careful observation, and management lead to a good outcome.

Keywords: Contrecoup, extradural, hemorrhage, trauma, without fracture

Introduction
An extradural hemorrhage is a collection of blood in the space between the inner table of the calvarium and dura mater. It can occur in coup and countercoup injuries. Extradural hematomas (EDHs) due to coup type of head injuries are quite common and most often associated with overlying calvarium fractures, whereas contrecoup EDHs are very rare entities and are not associated with any overlying fractures. There are only a few reports of contrecoup EDHs published in the literature.

Case Report
A 28-year-old male alleged to have sustained head injuries in a road traffic accident by fall from a two-wheeler under the influence of alcohol presented to the emergency department with no complaints of loss of consciousness, vomiting, seizures, and ear/nose bleed. A laceration was noted on the right temporoparietal region which was immediately sutured. On examination, the patient was conscious and coherent with a Glasgow Coma Scale Score of 15/15 without any focal neurological deficits; all vitals were within normal limits. Computed tomography of the brain was done which revealed a 10 mm thick extradural hemorrhage in the left parieto-occipital region and soft tissue thickening in the right temporoparietal region [Figure 1]. No calvarial fractures were noted. A computed tomography scan of the brain was repeated after 24 h which revealed no increase in the thickness of extradural hemorrhage. The patient was managed conservatively, and the follow-up was uneventful.

Discussion
At our center, we came across one such case where the patient had a contrecoup EDH without an overlying fracture of the calvarium, and a thorough review of literature reiterates the fact that this presentation is a rare variant and hence this case report. EDHs are one of the most common presentations in head injury. It accounts for 1%–3% of all the head injuries. They are usually located at the site of impact and occur due to the rupture of a middle meningeal artery or calvarial fracture resulting in accumulation of blood in between the inner calvarium and dura mater due to the separation of dura mater by the medullary arachnoid. The patient was managed conservatively, and the follow-up was uneventful.

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Contrecoup acute epidural hematoma without fracture

Surgical management of acute epidural hemorrhage is a neurosurgical emergency. Contrecoup variants of EDH are a rare entity and those not associated with fracture are extremely rare. Hence, careful observation and timely management are required. Here, we report a case of contrecoup variant of EDH which is not associated with fracture.

**Conclusion**

EDH is a neurosurgical emergency. Contrecoup variants of EDH are a rare entity, and those not associated with fracture are extremely rare. Hence, careful observation and timely management are required. Here, we report a case of contrecoup variant of EDH which is not associated with fracture.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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