



CASE REPORT

Acute Simultaneous Bilateral Extradural Hematoma

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Abstract

Bilateral extradural hematomas are uncommon consequence of head injury with many unique features. In our case the fracture line over the skull was extending across the sagittal sinus. This case report emphasizes the specific features as to their etiopathology, clinical presentation, diagnosis and management principles.

Key Words

Head Injury, Bilateral Extradural Hematoma

Introduction

Double extradural hematoma (EDH) was rarely detected before the introduction of computed tomography (CT). Roy (1884) reported the first case of bilateral EDH (1). These patients usually present with lower GCS and the mortality rate in these patients is higher as compared to those with unilateral EDH. Most of these cases require urgent surgical evacuation.

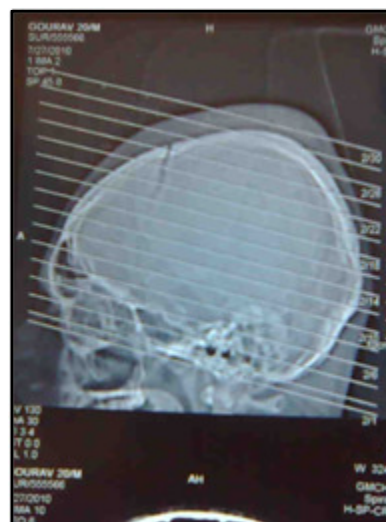
Case Report

A 24yr old male presented to the emergency services with history of road traffic accident while he was driving a motorbike. He had loss of consciousness for about 5 minutes, followed by recovery. General examination revealed a 3cm size lacerated wound over scalp in left frontal region which was stitched. Neurological examination revealed a conscious patient, drowsy but arousable and irritable with GCS of E3 M6 V4. Non-contrast CT head was performed about three hours after injury, which revealed an extradural hematoma in left frontal region, right high parietal region (Fig 2-4). There was a fracture line extending across the sagittal suture (Fig 1).

The patient was taken up for urgent surgery. Two separate craniotomies were performed in the same sitting and the left frontal as well as right parietal extradural hematomas were evacuated. Intra-operatively the fracture line was seen crossing the midline. The bleeding was present from the fracture margins which was

controlled by applying the bone wax. There was no evidence of superior sagittal sinus injury. While elevating the bone flap, care was taken to avoid damage to sagittal sinus. After evacuating the hematomas, dural hitch sutures were taken all around. Bone flaps were replaced and secured locally. Scalp was closed in layers and subgaleal drain was placed on either side. Patient made uneventful recovery and was discharged. Post-operative CT scan showed complete evacuation of the hematomas; mass effect was relieved on both sides (Fig 5).

Fig. 1. Showing Fracture Line Extending Across the Sagittal Suture

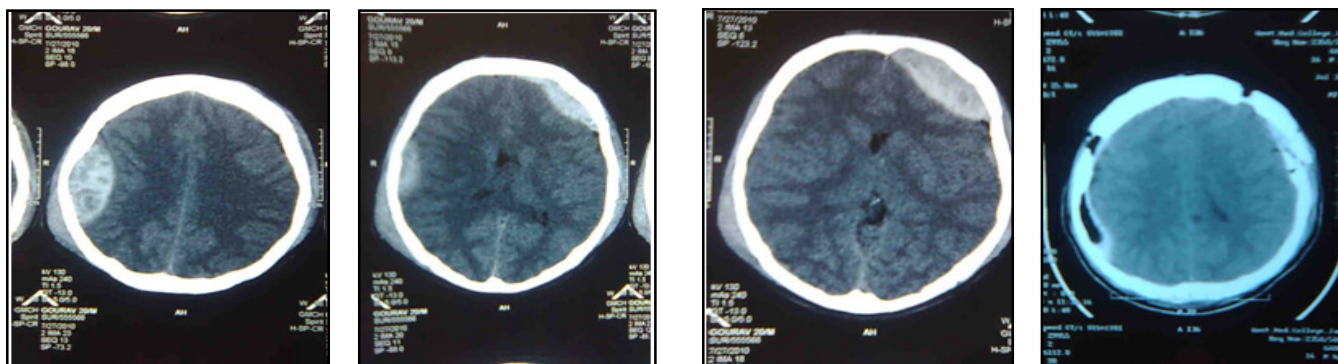


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Fig. 2,3 & 4. Showing Non-Contrast CT Head Performed Three Hours After Injury, which Revealed an Extradural Hematoma in Left Frontal Region, Right High Parietal Region Fig 5. Post-operative CT Scan Showed Complete Evacuation of the Hematomas; Mass Effect was Relieved on Both Sides



Discussion

Among the EDH cases the incidence of bilateral EDH has been reported in various studies ranging from 2-25% (2-7), while its presence at more than two sites is extremely rare. It has been suggested that the force of impact to the head could produce bilateral hematomas, which is more predominant in the anteroposterior direction than from the lateral direction(8). This is probably the reason for a higher frequency of EDH in the frontal region. Patients with double EDH less frequently have a lucid interval, have a lower GCS, lateralization is frequently absent and deteriorate more often than individuals with unilateral hematomas (8,9). There are two types of bilateral EDH. In the commoner first type, the bleeding is venous in nature and occurs as a delayed phenomenon, while in the second type the bleeding is arterial in nature(8,10,11). The case in which the superior sagittal sinus is lacerated as seen mostly when the linear fracture crosses the sagittal suture, the course is much more acute and the mortality is as high as 16.5% to 50% (12).

Conclusion

Bilateral extradural hematoma is a uncommon but life-threatening condition. Neurosurgeons should be aware of the above discussed condition, so that prompt recognition and treatment can be achieved with better outcomes. It is especially important when the fracture line crosses the sagittal suture in which case the specific pre-operative as well as intra-operative management is required.

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