Spontaneous Decompression of Extradural Hematoma Through Skull Fracture

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ABSTRACT
It has been increasingly recognized that there is a subgroup of patients, the extradural hematoma can disappear rapidly without surgical evacuation. In present, we report a case of 65-year-old gentleman whose follow-up computed tomography scan, showed reduction in the size of acute epidural hematoma and review the relevant literature. However, we need to remember if there is no improvement in the neurological status of the patient, a follow-up scan still is needed to assess the size of the hematoma.

Keywords: Extradural hematoma, Epidural hematoma, Spontaneous resolution, Skull fracture.

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CASE REPORT
A 65-year-old gentleman presented with a history of fall from 20' height at 1.30 A.M. He had multiple episodes of vomiting and loss of consciousness for 1 hour. A scan done after 4 hours of injury showed extradural hematoma left parietal region (volume: 40 ml, Fig. 1). He presented to the emergency department of our hospital about 16 hours after the injury. At that time, the patient was irritable. Glasgow coma scale was E3V3M6. He had cataract in left eye. Right pupil was normal and reacting to light. He had fracture in right femur. In view of nonimprovement in his condition and early first scan, a repeat CT scan was performed that showed decrease in the size of hematoma (20 ml, Figs 2A and D). There was overlying fracture of the parietal bone (Figs 3A and B). His blood investigations including coagulation profile were normal. The patient was managed conservatively for EDH and underwent internal fixation of the femur fracture. The patient made an uneventful recovery from the operation.

DISCUSSION
Spontaneous resolution of EDH has been reported in all age groups.5,9,14 Usually, the spontaneous resolution takes place in weeks and rarely in days,2-4,9,14-16 but in rare circumstances the EDH can resolve within hours after trauma.5,8-10,14,17,18 The mechanisms responsible for the spontaneous resolution of the EDH in acute stage are entirely different than that of chronic resolution.5,9,14,17-19 The mechanism behind chronic resolution of EDH is that there is formation of fibrovascular neomembrane and granulation tissue, acting as a semipermeable membrane like absorbing structure through which there is transfer of the clot into diploic bone or extracranial space through the fractures.2,3,6,8-10,14,20,21

In acute, the reduction in size of the EDH occurs though overlying skull fracture causing transfer of collection to the subgaleal space.8,14,18,22 It is further facilitated by increase...
in intracranial pressure that creates a pressure gradient and forcing out the clot from epidural space to the subgaleal space through the fracture. The most appropriate management modality for the management of EDH is determined by the size and neurological status of the patient. However for smaller lesions, careful follow-up, monitoring, and nonoperative management have been recommended. In view of smaller size and further reduction in clot volume, a nonoperative management was offered to the patient. The learning points in present case include that not all extradural hematomas will increase in size over a period of time and although rare in contrast to this, in a subgroup of patients the size and volume of the hematoma can further decrease. We need to remember if there is no improvement in the neurological status of the patient, a follow-up scan is still needed to assess the size of the hematoma even an early CT scan was showing a significant size of extradural hematoma.
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REFERENCES


