Posterior fossa epidural hematoma

- Acute Epidural Hematoma: From Injury to Death
- Traumatic posterior fossa extradural hematoma in children: a meta-analysis and institutional experience of its clinical course, treatment and outcomes
- Surgical Efficacy Analysis of Traumatic Posterior Fossa Epidural Hematoma in Children
- Traumatic Posterior Fossa Acute Epidural Hematoma with Frontal Hemorrhagic Contusion in a 25-Year-Old Male: Immediate Craniotomy and Successful Recovery
- Operative versus non-operative management of posterior fossa epidural hematoma: A systematic review and meta-analysis
- Institutional Experience of Post-Traumatic Posterior Fossa Extra Dural Hematoma: A Prospective Longitudinal Study
- Exploring Rare Traumatic Injuries: A Miniseries of 4 Cases Discussing Epidural Hematomas Bridging the Infratentorial and Supratentorial Regions
- Management of epidural hematomas of the posterior Cranial Fossa

see Liquid posterior fossa epidural hematoma.

see also Retroclival epidural hematoma.

Epidemiology

Epidural hematoma (EDH) most commonly occurs in the supratentorial area, particularly in the temporal region, of the brain. Posterior fossa epidural hematoma (PFEDH) is less frequently observed, accounting for only 1.2% to 12.9% of all EDH cases.

Traumatic hematomas of the cranial posterior fossa occur much less frequently than supratentorial intracranial epidural hematomas.

They are, however, the most common traumatic space-occupying lesions of the posterior fossa.

see Posterior fossa epidural hematoma in children.

Clinical features

Clinically, symptoms may be silent and slow, but the associated deterioration is often sudden and quick becoming fatal if not promptly treated

Diagnosis

A posterior fossa intracranial epidural hematoma (EDH) is uncommon and the diagnosis is difficult because the clinical symptoms are non-specific. Therefore, a computed tomography scan is important for the early diagnosis and management.

Sometimes associated with acute clinical deterioration (ACD) without significant warning symptoms and may result in death.

Treatment

The patients with occipital fracture and vomiting must be observed closely and followed up by CT, even if the initial CT is negative. CT performed shortly after the trauma may reveal no evidence of PFEDH but cannot exclude the development of delayed hematoma ¹⁾.

Case series

2011

Thirty-four patients with a posterior fossa EDH were admitted between 2001 and 2008. A retrospective analysis of the clinical and radiographic findings with regard to outcome and prognostic factors was carried out. The Glasgow Coma Scale (GCS) score on admission was recorded to be: one in 3-5, five in 6-8, six in 9-12 and 22 patients in 13-15. The admission GCS score was the most valuable prognostic factor. Among the 28 patients with a GCS score of more than 9, 27 patients survived with good results; for the six patients with a GCS score of less than eight, two patients had good recovery and four patients had unfavourable outcome. The 15 patients that were conservatively treated and 14 out of the 19 patients surgically treated had a good recovery. Among the other surgically treated patients, two were moderately disabled, two remained in a vegetative state and one died (overall mortality 2.9%). An occipital fracture was present in 28 cases. Six patients with a diastatic fracture of the lambdoid suture had a more complicated venous sinus injury requiring early surgery compared to those with a simple linear fracture. The patients admitted with associated intracranial injuries, such as a contrecoup injury including subdural haemorrhage or traumatic subarachnoid haemorrhage had a poor outcome. The initial GCS score on admission and the presence of associated intracranial injuries were important factors associated with the patient prognosis. A diastatic fracture of the lambdoid suture was associated with complicated venous sinus injuries making surgery more difficult²⁾.

2010

24 patients with PFEDH constituted 11.5% of 209 surgically treated individuals with EDH. The best outcomes were obtained by patients with GCS scores of 15-14 on admission. Patients in the fourth to seventh decade of life had less favourable outcomes than younger ones. More than half of the patients with PFEDH had associated intradural lesions. Only patients with concomitant brain contusion had a more favourable recovery. The 3 worst levels on the Glasgow Outcome Scale (GOS) were observed in patients suffering from subdural or intracerebral haematoma, or both, associated with the PFEDHs. The majority of patients with concurrent lesions and supratentorial extension of the haemorrhage were in the subgroup undergoing craniotomy between 24 and 72 h after injury. Patients treated in this time interval also had the most unfavourable outcomes. A classical lucid interval was observed only in one patient. The mortality rate in the series was 4.2%.

The most significant factors influencing outcome in our patients were GCS on admission, age, and associated intradural lesions ³⁾.

2007

Twenty-one patients (14 men and 7 women) were admitted for PFEDH to Sendai City Hospital. Four patients suffered ACD. All patients had struck their occipital region and had occipital fracture. Patients were treated conservatively on admission because computed tomography (CT) showed no significant findings in 2 patients and PFEDH with minimal symptoms in the others. All patients suffered acute deterioration of consciousness after vomiting. Follow-up CT showed large PFEDH with severe mass effect. Emergency surgery was performed and identified the bleeding point as the venous sinus. The presence of nausea/vomiting was significant risk factor of ACD (Fisher exact test: P = .021). Of the 4 patients, 2 achieved excellent recovery without deficit, 1 was moderately disabled, and 1 died. The outcome of patients with ACD was worse compared to those without ACD (Fisher exact test: P = .046).

We should note that vomiting itself could be a significant risk factor of ACD for occipital head trauma. The patients with occipital fracture and vomiting must be observed closely and followed up by CT, even if the initial CT is negative. CT performed shortly after the trauma may reveal no evidence of PFEDH but cannot exclude the development of delayed hematoma ⁴⁾.

Case reports

2016

A 33-year female involved in a motor vehicular accident had a GCS of 14/15 and CT scan showed a moderate-sized unilateral Posterior fossa epidural hematoma (PFEDH). She had sudden deterioration in her haemodynamic status with drop in sensorium 2 hours after admission. There was a copious amount of frothy secretions noted on intubation and she was diagnosed as having neurogenic pulmonary edema.

Subocciptial craniectomy (SOC) with haematoma evacuation was performed and was managed with PEEP mechanical ventilation post-operatively. Excellent outcome was obtained and was discharged with a GOS of 5 5 .

2013

A 26-year-old male presented with a mild confusion and hemianopsia after traumatic brain injury. Cerebral CT-scan revealed a 62.5 cm(3) left occipital extradural haematoma (EDH). Although conventional neurosurgical management would have been to evacuate the haematoma, a conservative strategy was preferred, and the patient made a total recovery ⁶⁾.

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