Depressed skull fracture case series

Aziz et al., prospectively followed up a cohort of 34 patients with fractures over dural sinuses from January 2013 to December 2017. Twelve (35.1%) were simple depressed fractures (SDFs) and 22 (64.7 %) compound depressed fractures (CDFs). Eighteen patients (52.9%) were treated surgically, and 16 (47.1%) were treated conservatively.

The mean age was 20.8 years. Thirty-two were males (94.12%). The mean time from trauma until hospital arrival was 3.8 hours, and the mean admission Glasgow Coma Score (GCS) was 13.7. Direct trauma was the most common mode of injury. Funduscopy was performed in 16 patients (47.1%), and MRV in four patients (11.8%). Twenty-four patients (70.59%) had the fracture overlying the superior sagittal sinus (SSS). The mean length of hospital stay was five days, and the mean follow-up duration was 6.8 months. Twenty-eight patients (82.35%) had a good recovery.

The majority of SDFs and some CDFs overlying dural sinuses can be managed safely without major surgical intervention. Conservation should be favored when the sinus is patent, dura intact, and bone displacement is insignificant in neurologically intact patients with an apparently clean wound. Otherwise, surgery should be considered. They also propose including a venogram and fundoscopy as parts of the initial trauma work-up for these patients [1)].

2014

A total of 17 patients were studied. There were 12 males and 5 females. Fifteen (88.2%) of the patients were 0- 40years. The etiology was road traffic accident in 82.4% of cases. Fourteen (82.4%) of the patients had open depressed skull fractures, while 17.6% had closed depressed skull fractures. Five (29.4%) of the patients had wound infection. Two (22.2%) of the patients operated within 48hours had wound infection, while 37.5% of those operated after 48 hours had wound infection. There was no infection among patients who had primary bone fragments replaced. Fifteen (88.2%) of the patients had good functional outcome.

The functional outcome in this study is good but the infection rate is high. Primary bone fragments should be replaced whenever possible as it prevents the need for cranioplasty and there is no relative risk of increased infection rate [2)].

2008

Five of 766 children (0.65%) undergoing craniotomies with pin fixation of the head had depressed skull fractures and/or epidural hematomas from the pin fixation. Age ranged from 2.6 to 7.5 years; all fractures were temporal and occurred during posterior fossa craniotomies [3)].

Case reports

2016

A case of depressed skull fracture involving only the inner table. The case resulted in a good outcome

with only conservative treatment, although the mechanism remained unclear. Fracture models of cadavers have been the main tool for biomechanical investigation, but this classical method cannot accurately measure mechanical factors. We utilized a computer simulation model to assess the human head following skull fracture. This is the first report of an inner table fracture;the fracture mechanism was determined using a simulated computer model [4)].

Depressed skull fractures sustained from golf balls are quite rare. McGuinness et al., report such a case in a 16-year old, and demonstrate its appearance in a 3D CT reconstruction [5)].

A 26-year-old male presented with delayed intracerebral hemorrhage from a ruptured distal middle cerebral artery pseudoaneurysm that followed a compound depressed skull fracture from years ago. The brain protrusion through the skull defect likely resulted in stretching and subsequent tearing of the arterial wall resulting in the pseudoaneurysm formation. No prior report of such a clinical occurrence exists in the literatura [6)].

A case of spontaneously elevating depressed fracture in a 13 year old boy. Depressed skull fractures in this age group might resolve on its own but may also complicate during its course of non-operative self elevation. In the reported case, the child developed gliosis and suffered seizures two years after the trauma. Repeat scans showed almost normal skull topography with underlying gliotic changes. Although all depressed skull fractures won't complicate as such, patients without neurological deficits should also be operated to prevent any delayed complications [7)].

2015

Depressed skull fracture secondary to the Mayfield three-pin skull clamp [8)].

2005

Depressed skull fracture and epidural haematoma caused by pin headrest complicated the post-operative course in an adult, after removal of a parasagittal meningioma. The calvarial thickness was observed to be significantly reduced due to chronic high intracranial pressure. Potentially hazardous complications of pin headrests should not be underestimated in adults [9)].

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