APNEUROCON 2024
GUNTUR
19th,20th & 21st – July 2024

A RARE CASE OF ADULT GROWING SKULL FRACTURE

Dr M BHASKAR REDDY, Dr CH. PRAVEEN, Dr G RAMA KRISHNA, Dr KVVSN MURTHY

Introduction:-

Growing skull fracture is a rare complication of head injury in childhood. The incidence reported is only 0.05%–0.1% of skull fractures in childhood. Although the development of growing skull fractures is multifactorial, the predominant factor in their causation is the presence of lacerated dura .

Most commonly seen in pediatric trauma cases below of 3 yrs of age and very rarely presents with symptoms after 15 yrs of age. Most common clinical presentation is seizures.

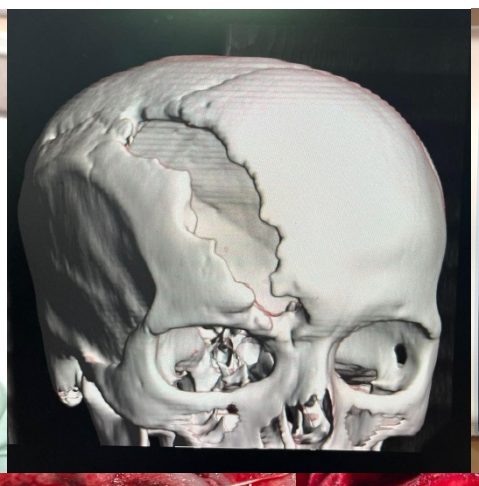
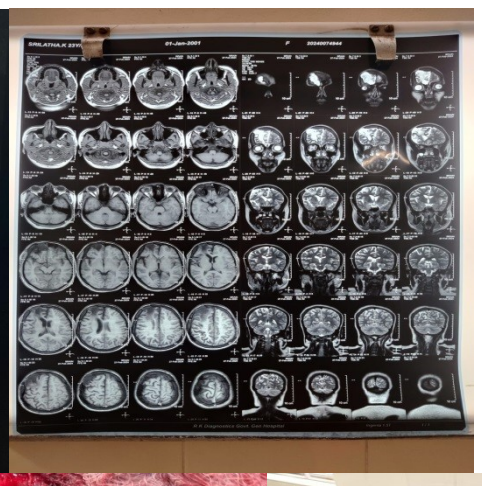
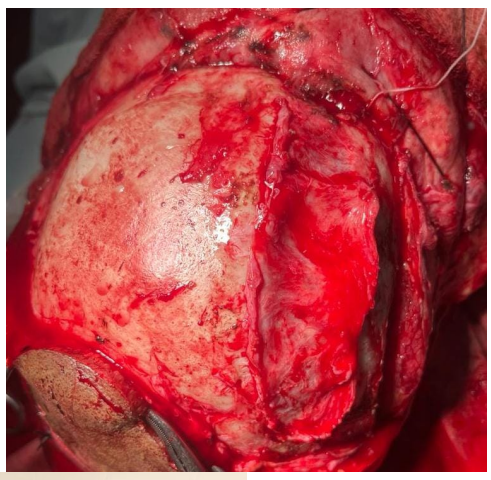
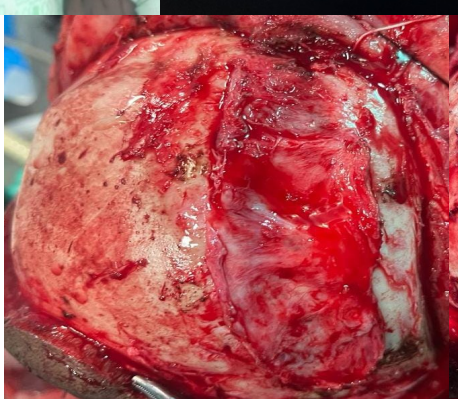
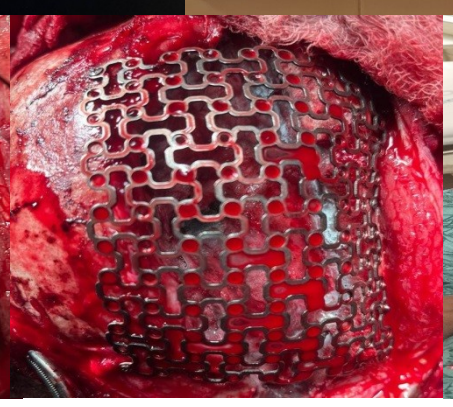
Background:-

The growing skull fracture terminology was put forth by Pia and Tonnis in the German literature in 1953 . However, this entity also known as “posttraumatic leptomeningeal cyst” or “cranio-cerebral erosion” was first described in the year 1816 by Howship in an 8-month-old baby .

Case report:-

A 27 yr old female with history of self fall while playing at the age of 3 yrs, presented with swelling in the right frontal region since the time of fall which started to progressively increase in size since 2 months and history of one episode of seizure 10 days back.

o/e: a defect of around 6 x 3 cm on right frontal region.no tenderness over the defect, ct scan was done which shown linear defect of size 7 x 4.4 mm. mri was done showing gliotic area at the site of defect. Patient was planned for surgery and underwent cranioplasty with titanium mesh along with duroplasty.


Discussion:- Three factors are necessary for the occurrence of Growing skull fracture: a cranial bone fracture, an underlying dural tear and entrapment of the arachnoid membrane or brain tissue through fracture edges .

The pulsatile force of the brain during its growth causes the fracture in the thin skull to enlarge. This interposition of tissue prevents osteoblasts from migrating to the fracture site and inhibiting healing. The resorption of the adjacent bone by the continuous pressure from tissue herniation through the bone gap adds to the progression of the fracture line.

There are three types of growing skull fractures, can present as 1 or 2 types in combination most Common presentation being combination of type 1 and type 2.

surgical repairment of dura and cranium is the most widely applied treatment

- Type I is a GSF with a LEPTOMENINGEAL CYST, which may be seen herniating through the skull defect into the subgaleal space.
- Type II is characterized by a damaged lesion or GLIOTIC BRAIN.
- In type III, A PORENCEPHALIC CYST can be seen

Conclusion:-

Growing skull fracture is a very rare complication following traumatic head injury in infants and toddlers below 3 years . All patientsunder the age of 3 years with diastatic skull fracture should be closely followed up and should be examined 2–3 months later to look for evidence of a growing skull fracture. Linear fractures and burst fractures in an infant with a scalp swelling must be corrected early to prevent growing skull fractures.

References:-

1) Ramamurthi B, Kalyanaraman S. Rationale for surgery in growing fractures of the skull. J Neurosurg.1970;32:427–30.

2)Gd singal etal 10.4103/ajns.AJNS_183_18,asian journal of neurosurgery.2021 sep 14.