ISOLATED TRAUMATIC SKULL FRACTURES IN THE PEDIATRIC POPULATION

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Introduction

• Blunt head injury accounts for the majority of pediatric trauma in the United States

• Although a majority of patients with skull fractures will have associated intracranial pathology, a fraction of these patients have a normal physical examination and an isolated skull fracture on head CT
Skull Fracture
Skull Fracture
Hypothesis

• There is a paucity of evidence to guide the management of blunt trauma patients with an isolated skull fracture without intracranial hemorrhage

• We hypothesized that neurologic decline is rare in patients with an isolated skull fracture from blunt head trauma and repeat imaging usually is unnecessary
Materials and Methods

• Single center retrospective review
• Inclusion criteria
  • Blunt trauma
  • Isolated skull fracture on head CT
  • Normal neurological examinations
• Exclusion criteria
  • Intracranial hemorrhage
  • Penetrating trauma
  • Depressed skull fractures or skull base involvement
  • Pneumocephalus
  • Poly-trauma or concern for non-accidental trauma
• June 2004 to June 2014
Results

• 71 patients

• 16 patients (22.5%) were discharged from the emergency department

• 55 patients (77.5%) were admitted for inpatient observation and serial neurologic examinations
Results

Female 44%  Male 56%
Results: Age Distribution
Results

• 0 patients needed neurosurgical intervention in either group

• 4.2% of patients underwent repeat imaging

• No association between age and repeat imaging ($p = 0.7474$)

• No association between age and inpatient observation ($p = 0.4074$)
Conclusions

- An isolated traumatic skull fracture in a patient with normal neurologic examination has a very low likelihood of needing neurosurgical intervention.

- An isolated skull fracture is not necessarily an indication for admission and neurologic observation.

- Further studies are needed to determine the indications for inpatient observation in pediatric blunt head trauma patients.
Thank You!