HEAD INJURY

Parturitional Brain Injury
 Thierry A.G.M. Huisman, MD

1. Which of the following statements related to parturitional injuries is correct?

   A. Caput succedaneum refers to a hemorrhage/edema within the subcutaneous fat.
   B. Subgaleal hematoma refers to a hemorrhage between the skin and galea aponeurotica.
   C. Subgaleal hematoma refers to a hemorrhage between the cranial periost and calvarial bone.
   D. Cephalohematoma refers to a hemorrhage between the cranial periost and calvarial bone.
   E. Cephalohematoma refers to a hemorrhage between the skin and galea aponeurotica.

   Correct Answer: D

2. Which of the following hematomas may result in a life threatening hypovolemic shock?

   A. Caput succedaneum
   B. Subgaleal hematoma
   C. Cephalohematoma
   D. Epidural hematoma
   E. Subdural hematoma

   Correct Answer: B

3. Which statement is correct?

   A. Cephalohematoma are often associated with a brachial plexus injury
   B. Cephalohematoma are often associated with a linear skull fractures
   C. Cephalohematoma are often associated with a depressed skull fractures
   D. Cephalohematoma frequently result in a leptomeninegal cyst
   E. Cephalohematoma typically occur at the level of the sutures

   Correct Answer: B

Reference
4. Diffuse axonal injury in abusive head trauma is:

A. a common finding and the cause of the diffuse cerebral swelling
B. a common finding and involves the gray-white matter junction
C. a common finding and involves the corpus callosum and midbrain
D. a rare finding and if present most commonly involves the cervicomedullary junction
E. a rare finding and if present most commonly involves the white matter and basal ganglia

Correct Answer: D

References

5. The preferred medical term for abused children with brain injury is:

A. Shaken Baby Syndrome
B. Abusive Head Trauma
C. Shaken-whiplash Syndrome with Head Trauma
D. Trauma-X with Brain Injury

Correct Answer: B

Reference

Abusive Head Injury or Not? Differential Diagnoses to Consider
Marguerite M. Caré, MD

6. A 6-month old child presents to the emergency department with new right parietal soft tissue swelling. The parents state that the child fell off a changing table two days ago. A head CT scan is performed and demonstrates a nondisplaced right parietal bone fracture with a small adjacent extra-axial hematoma. All of the following statements are true EXCEPT:

A. Parietal bone fractures are the most common location for skull fractures in accidental injury.
B. Parietal bone fractures are the most common location for skull fractures in abusive head injury.
C. Linear fractures are the most common fracture type in both accidental and abusive injury.
D. A follow-up skeletal survey in two weeks will help determine the age of the fracture.
E. The fracture is unlikely to be birth-related.

Correct Answer: D

Reference

7. A 2-week old female infant is brought to the emergency department with reports that she was “found down” at home. The infant has shallow breaths and activity concerning for seizures. A head CT is performed which demonstrates thin, high attenuation subdural hemorrhage in the right parietal-occipital region and posterior fossa. Which one of the following is the LEAST likely cause of the imaging findings?

A. Birth-related hemorrhage
B. Menkes disease
C. Abusive head injury
D. Vitamin K deficiency

Correct Answer: B

References

EMERGENCY DEPARTMENT NEUROIMAGING

Arterial Ischemic Stroke in Children: A Neurointerventionalist’s Perspective
Darren B. Orbach, MD, PhD

8. Are the guidelines for TPA administration in children with acute ischemic stroke similar to those in adults?

A. Yes, both clinical and radiographic criteria are virtually identical
B. Clinical criteria are the same but radiographic criteria are different (e.g. a large region of CT hypodensity in children is not a contraindication)
C. Radiographic criteria are the same, but clinical criteria differ (e.g. there is a longer time window for thrombolysis in children)
D. Both clinical and radiographic criteria in children have been established to be different from adults
E. There are no guidelines for TPA administration in children. In fact, the first IV TPA dose-escalation study in children with stroke is just now getting underway (TIPS)

Correct Answer: E

References
1. Amlie-Lefond et al., Circulation 2009, 119:1417

9. Ischemic stroke in children is an important clinical problem – True or False?

A. False – Ischemic stroke is so rare, across all cohorts of children, that it does not merit serious clinical attention
B. True – There are some cohorts, such as children with sickle cell disease, in whom stroke incidence is as high as it is in adults
C. False – Almost all children who have an ischemic stroke recover to baseline functionality, so there is little point in devoting time and resources to it
D. True – Although the incidence of pediatric ischemic stroke overall is low compared to the adult incidence, the socioeconomic and personal burden is enormous, given that it is manifest over many decades
E. Both B & D are true

Correct Answer: E

References

10. Is moyamoya in children the same as moyamoya in adults, in terms of its natural history, radiographic appearance, and treatment?

A. Yes, they are very similar – both pediatric and adult moyamoya present overwhelmingly with AIS
B. Yes, they are very similar – both pediatric and adult moyamoya present overwhelmingly with intracranial hemorrhage
C. No, they differ – children’s elastic vessels allow for effective treatment with angioplasty and stenting, while adults require bypass or synangiosis
D. No, they differ – children present overwhelmingly with AIS, while adults present much more frequently with intracranial hemorrhage
E. No, they differ – in children, it is most commonly the internal carotid artery tree that is involved, while in adults it is the vertebrobasilar system.

Correct Answer: D
11. Select the most correct statement.

A. The piriform aperture normally measures 5 to 10 mm
B. The retropharyngeal space is well differentiated from the danger space on CT
C. Orbital infarction in sickle cell is more common in adults
D. Retroantral fat involvement in the immunocompromised patient has less than a 70% PPV for invasive fungal sinusitis
E. Enlarged lymph nodes in Castleman disease demonstrate central hypervascularity on ultrasound.

Correct Answer: D

References
2. Hoang JK, Branstetter BF, Eastwood JD, Glastonbury CM. Multiplanar CT and MRI of collections in the retropharyngeal space: is it an abscess? AJR 2011; 196: 426-432

12. Select the false statement concerning blunt cerebrovascular injuries in children.

A. A large percentage of children are initially asymptomatic
B. Grade 5 injuries on CTA have a high incidence of cerebrovascular ischemic event
C. Grade 1 injuries on CTA are treated conservatively
D. There are well defined screening criteria for children
E. Most commonly results from motor vehicle collisions

Correct Answer: D

References

13. Select the correct statement concerning mastoiditis in children.

A. A Bezold abscess results from inferior extension of acute coalescent mastoiditis
B. Mild mastoiditis should be treated surgically
C. Mastoiditis is not usually associated with otitis media
D. The presence of mastoid fluid is diagnostic of acute coalescent mastoiditis
E. Otitic hydrocephalus results from obstruction at the level of the cerebral aqueduct

Correct Answer: A

References

Beyond Trauma: Pediatric Emergency Brain Imaging Pearls and Pitfalls
Laura Z. Fenton, MD

14. You are shown multiple non-contrast brain CT images in a 10 you girl with lymphoma and altered mental status, what is the most likely cause of the parasagittal hemorrhage?
Hemorrhagic lymphoma

A. Vascular Malformation
B. Venous Thrombosis
C. Arterial ischemic stroke
D. Chemotherapy

Correct Answer: C

References

15. True or False?

You are reviewing a brain CT on a comatose child in your emergency department and note the reversal sign, this indicates a poor prognosis.

Correct Answer: True

Reference