CONGENITAL AND ACQUIRED BRAIN INJURY

2008 SAE-P: Congenital and Acquired Brain Injury

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Educational Activity 1.1
1. The overall rate of traumatic brain injury in 2003 was highest in which age group?
   (a) Very young, age 0 to 4 years
   (b) Adolescents, age 10 to 14 years
   (c) Middle aged, age 45 to 64 years
   (d) Elderly, age greater than 65 years


Clinical Activity 1.2
2. Failure to use a helmet when involved in a motorcycle accident increases the likelihood of head, neck, and facial trauma by:
   (a) 100%
   (b) 200%
   (c) 300%
   (d) 400%


Educational Activity 1.3
3. Which clinical factor correlates most powerfully with outcome after a traumatic brain injury?
   (a) Age at injury
   (b) Duration of posttraumatic amnesia
   (c) Length of coma
   (d) Neuroimaging findings at injury


Educational Activity 1.4
4. Comparing computed tomography (CT) and magnetic resonance imaging (MRI), the most sensitive neuroimaging technique to detect diffuse axonal injury after a traumatic brain injury is
   (a) T1-weighted MRI scan
   (b) T2-weighted MRI scan
   (c) Diffusion-weighted MRI scan
   (d) CT scan


Educational Activity 1.5
5. New treatment guidelines for the management of traumatic brain injury in adults recommend the maintenance of cerebral perfusion pressure at greater than how many mmHg?
   (a) 30
   (b) 45
   (c) 60
   (d) 75


Clinical Activity 2.1
6. According to a Cochrane review published in 2006, which class of drugs has been shown in a randomized controlled trial to be effective in treatment of agitation associated with acquired brain injury?
   (a) Anticonvulsants
   (b) Anxiolytics
   (c) Antipsychotics
   (d) /H9252-blockers


Clinical Activity 2.3
7. The advantage of using dantrolene sodium in a patient with dysautonomia and severe spasticity after brain injury is that it
   (a) causes sedation as well as tone reduction.
   (b) works at the muscle sarcomere and causes little sedation.
   (c) reduces spasticity and has few side effects.
   (d) reduces both spasticity and blood pressure.


Clinical Activity 2.3
8. In a research study with patients who had acquired brain injury 6 months previously, which response was found with oral baclofen given at the maximal tolerated dose?
   (a) Marked reduction in upper- and lower-extremity spasticity
   (b) Marked reduction in upper-extremity spasticity, but not in lower-extremity spasticity
   (c) Marked reduction in lower-extremity spasticity, but not in upper-extremity spasticity
   (d) Minimal reduction in upper- and lower-extremity spasticity

Clinical Activity 2.4
9. After implementation in 2002 of the prospective payment system for inpatient rehabilitation facilities (IRFs) for Medicare beneficiaries, which phenomenon was found to occur?
(a) The proportion of lower FIM motor scores on admission declined.
(b) Severely ill patients were more likely to be admitted to IRFs.
(c) The proportion of lower FIM total scores on admission increased.
(d) The proportion of relatively expensive cases decreased.

Clinical Activity 2.5
10. Which type of brain injury patients are most likely to have deep vein thromboses?
(a) Nonpenetrating traumatic brain injury
(b) Penetrating brain injury
(c) Hypoxic brain injury
(d) Intraparenchymal hemorrhage

Clinical Activity 3.1
11. Minimally conscious state is defined by the presence of
(a) sleep-wake cycles.
(b) cranial nerve reflexes.
(c) self-awareness.
(d) reflexive behaviors.

Clinical Activity 3.2
12. Medications shown as most efficacious for posthypoxic myoclonus include
(a) clonazepam and valproate.
(b) phenytoin and primidone.
(c) ethanol and tetrabenazine.
(d) phenobarbital and methysergide.

Clinical Activity 3.3
13. Which factor is NOT characteristic of a mild traumatic brain injury?
(a) Alteration in mental state such as feeling dazed and confused
(b) Glasgow Coma Scale score in the 13 to 15 range
(c) Posttraumatic amnesia less than 24 hours
(d) Loss of consciousness more than 30 minutes

Clinical Activity 3.4
14. Children with moderate to severe traumatic brain injury frequently have unmet health care needs, particularly for cognitive services. Which condition is LEAST likely to contribute to this lack of care?
(a) Lack of insurance funding
(b) Poor family functioning
(c) Limitations because of child’s physical disabilities
(d) No recommendation from the child’s physician

Clinical Activity 3.5
15. Which statement is TRUE regarding patients with brain malignancies?
(a) Functional gains are less than in patients with stroke or traumatic brain injury.
(b) Length of stay is comparable to that of patients with stroke or traumatic brain injury.
(c) Radiation treatments should be done before therapy sessions.
(d) Rates for discharge are significantly lower than those for stroke or traumatic brain injury.

Clinical Activity 4.1
16. Which admonition is consistent with the guidelines for pharmacologic intervention for patients with traumatic brain injury?
(a) Begin at the same doses one would use for age-matched controls.
(b) If partial response is obtained, continue increasing the dose of that medication.
(c) Give each medication at least a 2-week trial.
(d) When weaning a medication, be aware of its half-life.

Educational Activity 4.2
17. Which factor contributes to a patient successfully reentering the work force after traumatic brain injury?
(a) Shorter rehabilitation stay
(b) Patient and family working alliance
(c) Speed of information processing
(d) Neuropsychologic memory retraining

Clinical Activity 4.3
18. Which statement is TRUE regarding psychiatric disorders after traumatic brain injury (TBI)?
(a) They occur at the same frequency as in the age-matched general population.
(b) Risk factors include a diagnosis of psychiatric disorder before the TBI.
(c) The risk of developing a psychiatric disorder progressively worsens over time postinjury.
(d) Diagnosis of a psychiatric disorder after TBI is straightforward and can be done by community mental health workers.

Ref: Clinical Activity 4.3

Learning Objective 4.4
19. When patients with traumatic brain injury (TBI) ask about returning to driving, you tell them
(a) persons with TBI must wait at least 1 year postinjury before resuming driving.
(b) only an on-road evaluation is necessary to determine fitness for driving.
(c) clinical assessment should include sensorimotor impairment, vision, and cognitive function.
(d) persons with brain injury should not drive and the physician must notify the state of their status.


Clinical Activity 4.5
20. Decision-making capacity is often impaired after traumatic brain injury. How should this aspect of their care be addressed?
(a) An alternate decision-maker should always be present during consents to medical treatments.
(b) Neuropsychologic testing is required before a patient’s competence can be determined.
(c) Physicians have a moral obligation to override decisions that may negatively impact the patient.
(d) Patients can have the capacity to make some decisions but not others, depending on their abilities.

Ref: No references available.

Educational Activity 5.1
21. After a traumatic brain injury, what is the key factor for motor improvement in a patient who is 2 years postinjury?
(a) Vicariation
(b) Sprouting
(c) Sensorimotor reorganization
(d) Diaschisis


Educational Activity 5.2
22. In a person with traumatic brain injury, which phenomenon does NOT limit the interpretation of functional magnetic resonance imaging data?
(a) Cerebral dominance
(b) Adequacy of cerebral blood flow
(c) Ability to follow multistep commands
(d) Medication effects


Educational Activity 5.3
23. In traumatic brain injury, which modality evaluates metabolite information and aids in a prognosis of outcome at 6 months postinjury?
(a) Transcranial magnetic stimulation
(b) Magnetic resonance spectroscopy
(c) Apolipoprotein E
(d) Positron emission tomography


Educational Activity 5.4
24. Compared with existing treatment methods, which augmentative device has shown superior efficacy and potentially cost-effectiveness for neurologically injured persons?
(a) Partial weight–supported ambulation
(b) Neuroprosthetic bions
(c) Virtual reality technology
(d) Robotic arm trainer


Clinical Activity 5.5
25. Which alternative treatment is established conclusively as efficacious for recovery in persons with moderate traumatic brain injury?
(a) S-adenosylmethionine
(b) Hyperbaric oxygen treatments
(c) Homeopathic remedies
(d) Citidine diphasphate-choline (Citicholine)