Emergency Medicine Update April 2003

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1. Smallpox is on everyone's mind - but do we need to worry about the vaccination? The vaccine did have a danger of death - about 1 in 100,000, but the concern that a lot of people have is transmission. True, it wasn't a problem in the sixties, but it was a different world in those days when most people were vaccinated and there was also herd immunity. In a nutshell, we aren't sure the disease cannot be transmitted by contact with the sore (JAMA 16 Oct 02, See also Peds Oct 02).
2. The people at Hillel Yafe like CRP for cardiac disease, but it still said 5% positive who had no disease. False negatives were fewer (Clin Card Oct 02). In my opinion this test may help you only when combined with another test. Even better, forget testing and use clinical judgment - it doesn't miss much.
3. While a recent review in AJOG said Pramin (metoclopramide) was OK in pregnancy, the people down in Assaf HaRofe found also that it did not increase malformations, but there was a slight increase in prematurity (AJ Perinat Aug 02).
4. There is a nice review of headache in the BMJ (19 Oct 02). Keep in mind CO poisoning - remember gas flames should be blue and not yellow or orange. I can also report on the pendulum swinging in the other direction. Contrary to the MJA article we reviewed two years ago, hyperbaric oxygen in this article helped (NEJM 3 Oct 02). I would also remind you to keep in mind metal fume fever.
5. Yes your screaming and throwing a fit can cause you to have an arrhythmia if you are already prone to it (Circ 1 Oct 02). There is a nice discussion of this phenomenon in AJEM Sept 02 by Dr. Stalnikowicz.
6. I would order this article on upper extremity DVT by DVT guru Dr. Goldhaber from the Bringham (Circ 1Oct 02). A tough call always, but think of it in non-traumatic arm pain with swelling. Here coumadin may not be the first answer as it predisposes to chronic extremity swelling - perhaps not a problem in the upper leg, but very noticeable in the arm. Consider local TPA with a Fogarty catheter.
7. Did you know there is a small risk of meningitis with cochlear implants for those with hearing problems? (CMAJ 17 Sept 02)
8. You should know this already, but telling surgeons is sometimes fruitless. You do not have to wait for the gallbladder to cool off before you operate. You can do it during a flare-up of acute cholecystitis, actually with better outcome (BMJ 21 Sept 02).

9. How about letting troponins help you diagnose PE - it can be elevated due to RV strain (Circ 3 Sept 02)? They also get elevated in very sick septic patients due to the sepsis' effect on the heart (AJC 15 Sept 02).
10. A nice study using Monte Carlo methods says you can take all your blood cultures from the same site without missing or contaminating anything (CID 1 Oct 02).
11. We were always told bilious vomiting in a newborn is a danger sign but what about in older kids? Most do just fine, but keep in mind a small subset will have a small bowel obstruction (Clin Peds Sept 02).

Emergency Medical Update Looks at: Head Injuries

The source for this review was an excellent article in Chest Aug. 2002 of the University of Pittsburgh.

1. Can anything be done realistically? In the USA there are >250,000 head injured people admitted with 60,000 deaths and 90,000 permanently disabled. Crudely, without knowing individual cases, this means that at least 100,000 patients, who are injured badly enough to warrant admission, do well, although we don't know how many of these patients were justifiably admitted.
2. Epidural hematomas are convex, and are only present in 1% of head injuries. Treat the hematomas surgically quickly and the outcomes are excellent. They do poorly if missed and these are the ones that often but not always have a lucid interval. They are associated with fracture.
3. Subdurals are tears of the bridging vessels and are much more common. They are crescent shaped and it is the underlying brain injury that determines the prognosis.
4. Intracerebral hematomas act like masses. They are often missed at the first CT. Clinical deterioration is usually the tip off. Diffuse axonal injury is not due to tearing of neurons but rather swelling and disconnection. Best diagnosed with MRI. These people often have long periods of unconsciousness and many die or remain vegetative.
5. A concussion is a hard term to define. GCS and history of loss of consciousness is more useful. The neurosurgical literature still defines a mild head injury as GCS 13-15, but I believe that less than 15 is definitely not mild and much different than GCS 15.
6. Initial management.

   Hypoxia is a bad sign.

   Low BP. Don't worry about increasing ICP - give fluids. Treat the injuries that are life threatening. Cerebral blood flow is critical and it probably doesn't contribute to swelling.

In spinal shock 3% hypertonic saline has performed well. Use 250cc as a small volume.

Intubation is not done with succylcholine since it may increase ICP. Use propofol, etomidate and rocuronium. Hyperventilation? It may reduce blood flow to the brain during this critical period, but see Diringer, CCM Sept 02, who claims there is enough O2 reserve in the brain, so it may be safe. We don't know, and don't let the neurosurgeons bully you on this one.

7. CT is the test in the ED, and will show what you need to know without contrast. When to do one is also a controversy - LOC that has resolved or vomiting may not be important. See Ian Stiell's head injury rules in Lancet 2001 (357). This will be an issue in an upcoming IJEM.
8. OK, we all know that steroids have no role. What about Mannitol? CSF removal is the most effective for ICP, although mannitol has a role. We have discussed this before. Dosage is .5 g/kg, but while it increases blood flow to the brain, the diuresis may be massive and prolonged (up to six hours) so be careful. Remember neither mannitol nor barbiturates have ever been shown to improve survival conclusively. Again hypertonic saline may be the solution - or decompressive craniotomy.