

Emergency Medicine Update July 2003

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1. I am not a big fan of Tramadol (Tramadex in Israel), but it seems it can be safely used in children in doses of 1-2 mg/kg (Anaest. Annal. Jan. 03) While we are discussing safety in children we have mentioned in the past the Clinical Pediatrics article which claimed problems with the use of propofol in children. Most of these studies focus on its ICU use on children via continuous drip. We do not do this in the ED and there may be a place for propofol here, or even for etomidate. Dosage is unclear (I would use 10-20 milligram aliquots) but the experience of anesthesiologists seems to indicate it is safe (personal communication Dr. Kadar, Tel HaShomer).
2. Article in Peds, Jan. 03. I do not know what the fuss is all about. The article says that you do not need to do a CT urgently for a first time non febrile generalized seizure in a child. I am not sure why we do it in adults and we know blood analyses - with the exception of glucose - do not help much in patients that have fully recovered. I think Americans accept this. Israelis still do blood tests (including magnesium and calcium!).
3. JACS Jan. 03. There has been some great work on this subject - this article is not one of them - but it at least was accepted by a surgical journal and has all the references you need to show your surgeons next time they bother you about providing analgesia for abdominal pain.
4. Spine 15 Dec. 02. This retrospective article is provocative. We all know about spinal cord injury without radiographic evidence (SCIWORA) which may be found in both children and adults. They claim there is no occult instability and that bracing is not necessary. I think we need to look deeper in to this subject. Could this be a sub study of NEXUS? I throw this question out to IJEM editor Dr. Zucker who was a member of the NEXUS team. What do you say Mike?
5. J Ped Gastro Nutr Jan. 03. Hair relaxers are a very basic product used to straighten hair and bases dissolve esophaguses (esophagi?) - but perhaps this is a benign ingestion. This small study claims that no child in his right mind would swallow this stuff - it is very viscous, bad tasting and burns immediately. All children in this study had gastroscopies done and all were free of lesions.
6. AJOG Dec. 02. Bet you didn't know this - MI does occur in pregnancy, but uterine contractions can increase the level of CPK and MB in the blood. Do troponins. Similarly, electrical shock - as amniotic fluid is a great conductor - can cause fetal mortality in 75% of cases. If you need to do a DC cardioversion, do it with fetal monitoring! (BJOG Dec. 02).
7. PIDJ Dec. 02. Three days of ciproxin did just fine against dysentery and did not cause any joint damage in 253 small children. (Eight did have arthralgia and the medication was stopped immediately without any harm done - just as in adults). The Germans have been using quinolones for years in youngsters without any problems. Let's put this myth to rest.
8. Lancet 4 Jan. 03. This was a very important study - drug companies lie, they do not allow you to access their "data on file" and they often make wrong conclusions from articles Tell me my dear Israeli colleagues. Is it worth it just for a free pen?
9. Lancet ibid-a review article on the common cold. Cough is tough and we have reviewed this issue many times in the past. Old H1 blockers are better than the new ones mainly because of the anticholinergic effect that is lessened in new H1 blockers. By the way we will repeat it here - no current H1 blocker is non-sedating with the exception - maybe - of Telfast (Allegra).

A quiz! Here are some pointers from PEC Dec 02 - their legal briefs.

- a. Trapped legs under a dashboard are a risk for _____ ?
- b. Pedestrian versus auto is a risk for which lower limb occult injury _____ ?
- c. Rash for three days, high fever, normal WBC - this "viral Exanthem" nearly killed the patient. It wasn't toxic shock, and the patient had no petechiae - think _____ ?
- d. Pain in knees, headache, fever and near death - think _____ ?
- e. Signs of conjunctivitis - pain and a red eye - treatment with antibiotic ointments failed miserably - because here we had _____ ?



Answers

EMU LOOKS AT: Pediatric Orthopedics

William Brady of Virginia University has published extensively on orthopedic pitfalls. I will review his article in high risk pediatric orthopedics for those among us with little experience, but I believe there are more important pitfalls from my own experience that I will highlight.

1. Brady reminds us that the posterior dislocation of the shoulder is often missed. If you do not do a transcapular view you will miss it - until you realize the patient still can't move his arm after the x-ray. You should learn how to read a transcapular view and just don't forget the entity. Physical examination is very helpful too. You feel a lump posteriorly.
2. Galeazzi's fractures and Monteggia fractures do worse if you treat the fracture and forget the dislocation - and it is possible to see the fracture and miss the dislocation. However these are bad fractures that I wouldn't treat alone without an orthopedist. These are both fractures of the forearm.
3. Wrist dislocations - lunate, perilunate and scapho-lunate are not rare and a significant cause of malpractice. Scaphoid fractures are also often occult. Again, I don't share Brady's concern. All scaphoid fractures - even the occult ones - present with pain in the radial snuffbox and the dislocations are easy to pick up on lateral film. I can illustrate them here, but have someone show you the "ball in cup" - you'll never forget it.
4. Brady reminds us about mallet finger, boutonniere deformity and gamekeeper's thumb. These are pretty obvious - especially if there is a fracture through the joint of the fingers. Mallet finger looks like a finger with the end bent over, a small fracture can do this. Boutonniere looks like a swan neck deformity or the Hebrew letter Lamed. Gamekeeper's thumb is laxity in the ulnar collateral ligament of the thumb - a fracture here should also be suspicious.
5. Achilles tendon rupture is not to be missed, but there is pain in the area and patients do complain that they thought someone shot them in the back of the leg. Just remember the benign plantaris tear is in with the same mechanism - just squeeze the calf and see if the foot plantar flexes. If it doesn't - think of an Achilles transection
6. Calcaneal fractures - these are pretty obvious too and are found in jumpers from high heights. Just don't forget that T12 and C7 also fracture easily with this trauma.
OK, my turn!
7. Buckle fractures are sometimes very subtle in children - the smooth bony lines are replaced by a sharp angle. It is true that it is no big deal if you miss them - they all do well - but do not try to reduce a nursemaid's (pulled) elbow in this fracture. Similarly for a supracondylar fracture - one of the few pediatric fractures that you need to treat quickly. The patient can lose the use of the arm within hours if the ulnar nerve is tethered.

8. Knee pain in children - check the hip! You may miss a slipped femoral capital epiphysis or even a fracture.
9. Children do not often suffer sprains - their ligaments are very supple - think fracture - it may just be a Salter-Ia break in the cartilage.
10. Don't miss a Salter-V fracture - when the epiphysis is crushed on to the diaphysis it has a bad prognosis.
11. All fractures swell- bring your treated patients back for cast recheck in twenty four hours.
12. When the arm looks abnormal, but no fracture is seen on x-ray, don't forget the plastic bowing defect.
13. Children remodel remarkably. Most clavicle fractures do not need any special treatment and even angulated long bone fractures do well without pulling on them if the angle is less than 12 degrees (some say 30 degrees).

Answers to the above quiz:

- a. hip dislocation
- b. knee dislocation
- c. Rocky Mountain Spotted Fever – Rickettsia. Do not forget Kawasaki as well.
- d. Meningitis
- e. Herpes Simplex Conjunctivitis

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1. JAMA 27 Nov. 02. ARF people in the ED often get loop diuretics. But do they work? Basically, all they do is change oliguric renal failure into non-oliguric renal failure - meaning that they do not help much. We have previously reported many articles going back to 1993 in the Lancet that renal dose dopamine doesn't help for this either.
2. Injury Nov. 02. Shoulder dislocations easily reduce if they are first timers, but then what? Conservative treatment leads to an 80-90% recurrence rate. This article had small numbers but they believe that aggressive arthroscopy should be part of the follow up on first timers.
3. Clin Ped Nov. Dec. 02. I didn't know this! If someone swallows a straight pin, it will traverse the GI tract without perforation, as the blunt end always goes first. Toothbrushes never make it out of the stomach.
4. Phenergan has prokinetic effects as well as antiemetic effects. Pramin (Reglan) has primarily the former. Tigan (not available in Israel) doesn't work at all (ibid).
5. Dr. Simone told me the following isn't new information. Let's see. Admitting people for observation because of the mechanism of the trauma is fruitless. Only 5% had anything not suspected that required further intervention. (J Trauma Nov. 02) An article about ten years ago in the American Surgeon asked the question whether the mechanism of trauma should be a consideration at all in our treatment of patients. Perhaps yes, but I believe a careful initial examination and repeated examinations as necessary are prudent.
6. BMJ 7 Dec. 02. Green nasal drainage is meaningless as you know. If you use antibiotics for less than 10 days, 10% of patients will see improvement they would not have had if you had not used antibiotics. >10 days, 1 in six will.
7. JAMA Dec 18. Israelis beware. N. Gonorrhoea is resistant to quinolones in the far east and Hawaii. Supran, known as Suprax in the USA, has been discontinued

by the manufacturer. Ceftriaxone may be your only option. This will affect our treatment of dysentery in little children.

8. This has been known for years, but it crops up in the literature every so often to remind us. Resuscitation is a three phase event. Up to five minutes, electricity works well; from 5-10 minutes, there is a need for more oxygen, so a trial of CPR and adrenalin is necessary before electrical shock; more than ten minutes the patient is in an adverse metabolic phase, where basically all fails (JAMA *ibid*). Perhaps, if we only looked at these patients bicarbonate may be better. But remember, in any case, with the exception of electricity, no drug has ever been shown to influence survival until the discharge of the patient after any arrest.
9. Anaest *Annal Dec 02*. Another study berating propofol in children. It causes acidosis and too much apnoea. What no one asks is what about etomidate? Less apnoea and we don't use drips in the ED, so perhaps??? Anyone want to do a study?

EMU Looks at: COX-2

Now for this month's focus: COX-2. The info they don't want you to know.

The scene repeats itself daily in EDs all over the world. The kindly orthopedist diagnoses a sprain and gives a prescription for Vioxx, claiming it will be easier on the stomach and cause less gastric bleeding. Mrs. Irma Smedly thanks him and wakes up two hours later with swollen legs - and this is just the start of her problems. Want the dark truth? Well look below for a summary, but get the original article from *CMAJ* 12 Nov. 02.

1. Whatever you want to say, all that is claimed is from two unimpressive studies with spins by the drug companies to amplify the weak results.
2. There has never been a study claiming that COX-2s are more effective than traditional NSAIDs. Indeed, the NNT for Vioxx is 8 - not bad - but what that really means is that eight patients must be treated for eight weeks for one to achieve the benefit of a 20% reduction in swelling and pain. And please remember that NSAIDs are not great pain relievers "They provide only modest symptomatic benefit over placebo".
3. So what do NSAIDs do? They do reduce swelling and swelling is necessary for recovery. Long term use of these drugs causes eventual joint destruction.
4. They also affect the kidney. They cause water retention, increases in blood pressure, perhaps more CHF and can ruin renal function. **READ MY LIPS!! THERE IS NO DIFFERENCE BETWEEN COX-2 AND NSAIDS IN THEIR EFFECT ON THE KIDNEY!!!**
5. COX-2s do cause fewer visualized ulcers, but what about bleeding - microbreaks in the mucosa and gastritis is seen in both types of drugs. True, however, they do not interfere with platelet aggregation, which may reduce bleeding, but this causes more problems for people who need interference with platelets such as heart patients. Indeed, there may be more MIs and deaths in those taking COX-2.
6. There is no decrease in death from GI complications in COX-2 patients.
7. By the way Celcox, celebrex and celebra all have just a little more COX-2 selectivity than Voltaren.
8. Think that since you are a pediatrician that this doesn't apply to you? Guess again. The first liquid COX-2 for kids is before the FDA for approval (*Prescriber's Newsletter;2002*)
9. This article did not mention this, but in most civilized countries, the price for naproxen is low as it also is for ibuprofen. Vioxx is \$\$\$\$\$. In Israel Ibuprofen costs 55 agurot (400mg), naproxen is 1.2 shekel, and Vioxx is 12.25 Shekel (linked to the dollar, Ibuprofen is 13 cents, naproxen 28 cents, Vioxx \$2.82)