Emergency Medicine Update

June 2002

1. A well done study using a six way crossover found that IM adrenalin leads to much higher blood levels than SQ. It makes sense, since the blood supply to the muscle is much higher, indeed, they found the thigh route to lead to the highest concentrations. Adrenalin will close off the small vessels in the skin in a SQ injection. One problem. This study was done in healthy volunteers; in frank anaphylaxis, blood flow characteristics are different, although it would make sense that even there, muscle should absorb better than skin (J All Clin Immun Nov 01).
2. Good old Accamol (acetominophen) is still the safest- but still be careful. It causes CRF as often as aspirin, and can cause GI bleeding in doses of 2 gm a day (NEJM 20 Dec 01).
3. We still have a microscope for urinalysis in the ED of Tel Hashomer, but this exam is very non specific, and after a statistical analysis, does not assist us any more than regular dipstick (PIDJ Dec 01). True this study did not consider the wide differences in interpretation that can be caused by different training, but most of us do not do well at this, as previous studies have shown. My own addition to my readers is that occult urinary tract infections do occur in high risk groups such as kids, diabetics and people on steroids, but in a healthy population, a positive dipstick without urinary symptoms requires looking for other diagnoses. Consider that appendicitis and PID can also give a positive dipstick result
4. Why do women experience urinary retention? Mostly its after pregnancy, and has a good prognosis, but other cases are due to a problem that is in the striated muscle of the urethra. Do not assume this is a psych problem- in this study it was uncommon (J Urol Jan 02).
5. Three common causes of false positive opiate assays- rifampin, quinolones especially ofloxicin (Taravid) and poppy seeds (Pereg) (JAMA 26 Dec 01). While we are on the subject of interactions, Israelis love grapefruit juice, and one should recognize that this juice interacts with CYP3A4. It can increase the serum levels of Dihydropyridine Calcium Channel Blockers (felodipine (Penedil), nifedipine (Osmo Adalat and others), nimodipine (Nimotop), and amlodipine (Norvasc). Verapamil probably (Ikapress and others) Cyclosporine (Sandimmun), triazolam (Halcion), estrogens, midazolam (Dormicum) (but not IV), carbamazine (Tegretol), Caffeine (Nescafe and others) , lovastatin (Lovalip) and buspirone (Buspirol) (Presc Newslttr, 161008;2000, see also Mayo Sept 00).
6. The numbers are not important, but emergency physicians doing ultrasounds routinely picked up many cases of unsuspected pericardial effusions (AEM Dec 01). Two take home points- FAST and pericardial ultrasounds are skills that must be learned by everyone, and consider this disease, as well as dissection; both can present with chest pain.

7. I try to make EMU as useful as possible, but this article was so interesting, I had to include it. Years back in the early nineties, we started doing targeted antibiotic delivery by irrigating wounds with cephalosporins. This article tries inhaled antibiotics with the antibiotics that penetrate lung tissue poorly-vanco and gent (AJRCCM 1 Nov 01). The results were fair- probably because it is hard to reach lower airways, and increased secretions prevent the medication from reaching the target.
8. Tell your parents to throw out their ipecac and keep activated charcoal in the house instead. This article investigated whether or not their would be difficulty in getting kids to take the stuff or that parents would give it incorrectly. The results showed that it was given correctly and when it wasn't used, it was because the parents "preferred going to the emergency room" or because they couldn't find the charcoal in the house when they needed it (Peds Dec 01).
9. Here we go again- the surgeons since 1992 (references on request) have been fighting on this issue. JACS in Dec 01 once again feels that HIDA is more sensitive that ultrasound for acute cholecystitis. We as emergency physicians must just keep the following in mind: epigastric pain can be an ulcer, but MI and biliary pain must be kept in the differential; CBC and alk phos are very unreliable, and an ultrasound by the emergency physicians looking for at least stones is indicated in cases of doubt. Fever, diabetes, and pain that is not controlled by injectable pain meds are at higher risk.
10. We reported previously that cellular do not interfere with respirators and monitors. They also do not interfere with the EKG reading of AEDs (Resus Nov 01).

Emergency Medical Update Looks at: Low Back Pain

EMU in the past has discussed this topic and came to the conclusion that conservative treatment is best. Spine, 26(22) 01 compared guidelines of developed countries such as the USA, Netherlands, New Zealand, Finland, Australia, UK, Switzerland (Suisse) Germany, Denmark, Sweden and Israel. Let's see how we compare

1. Firstly, let's look at what is done at Tel HaShomer in routine back pain without signs of cord compression. Radiographs are routine, and a cocktail of Pethidine, Algolysine (Darvon) or Voltaren; and Valium are given. Admission is rare, bedrest may be recommended, and most cases are managed by the orthopedist
2. Israeli guidelines about education include realistic timetable, and make note that referral is generally not necessary. Unlike other countries however, explaining the none serious nature of the disease and avoiding bedrest are not mentioned
3. Our guidelines recommend NSAIDs ,muscle relaxants (in acute pain) and opiods for acute relief. However, paracetomol is not listed as it is in other countries
4. Israeli guidelines do recommend exercise- all other countries list them as not useful
5. All agree manipulation is of unclear effectiveness
6. Bedrest for more than two days discouraged by all countries. Australia, Finland and UK do not recommend it at all

7. Referral- red flags or after six weeks of conservative therapy with worsening symptoms. USA, Germany and Netherlands agree- all others feel referral only if red flags (suspected cauda equina syndrome, saddle anaesthesia, weakness, bilateral radiculopathy, local tenderness, see AHCPR guidelines 1993, Dayo et al)
8. X rays - optional after 5-6 weeks. Only Switzerland and Denmark agree, all others feel only in cases of red flags
9. Physical exam Only Israel includes temperature sensation among all other normal components of a neuro exam- this is a good thing, but they did not include gait, which I believe is very helpful
10. Psychosocial factors are included in everyone's guidelines except for ours

In summary, the Tel Hashomer model has some problems. All of us should be able to take care of back pain, and bedrest and x rays are not needed in general. Opoids are helpful, and valium is a very good muscle relaxer. We have discussed that pethidine is not ideal- use morphine instead. Psychosocial aspects should be considered

Welcome to the new EMU format. Let me remind you that the internet version cost 60 shekels for a year subscription. To receive EMU, please send checks to Dr. Leibman. More info at jbleibmd@yahoo.com.