

WESLEY EMERGENCY DEPARTMENT

THE QUEAS-E UPDATE

(Quality, Uniformity, Education, Attitude, and Service - in Emergencies)

Issue 124

September 2013

ESPA WEBSITE

ESPA stands for Emergency Services, Professional Association. We are a private ER group who has been partnered with Wesley Medical for over 40 years. We have the only pediatric ER in Kansas.

TRAUMA/RADIOLOGY: "Questionable value of FAST for low risk trauma"

In the low risk trauma patient in the ER which may not even enter into the trauma service, it is always a dilemma as to what to do with the minor trauma patient with some abdominal tenderness.

While for the level I or level II trauma patient with abdominal tenderness, they routinely get a FAST exam, it is essential for us to know why this is done. The FAST exam is done as a quick screen so if it is positive, it helps to expedite appropriate and efficient care. If it is negative in the moderate to high risk patient, they are usually observed for at least another day. In other words, the FAST exam is used for its quick and non-invasive specificity in the high risk trauma. This is an unusual (but effective) way to use a screening test.

When the ER physician sees the low risk trauma patient in the ER with some mild abdominal tenderness, we may reflexively order a FAST because "that is what trauma does". This kind of mimicry can be potentially dangerous because we are screening the patient who is about to go home with a test based upon its SENSITIVITY and its negative predictive value. The FAST can have a variable sensitivity and cer-

tainly a negative FAST does not exclude significant injury.

I would recommend one of three options:

- 1) Decide that the patient is such low risk that any test you do (regardless of its sensitivity) would be normal, and therefore do no radiographic study but discuss with the patient why and when to return.
- 2) Decide that the patient represents enough risk that you want a test with excellent negative predictive value and order a CT abdomen and pelvis with IV contrast.
- 3) Decide that the patient represents enough risk to consider imaging and discuss with the patient the benefit vs harm of US vs CT including accuracy, rad exposure, cost and then document your shared decision.

NEURO/PHARMACOLOGY: "The CHANCE trial and fine points on adding clopidogrel"

Aspirin alone reduces the risk of early recurrent stroke in high risk individuals by only 12%. Adding clopidogrel (Plavix) to aspirin in ACS patients decreases recurrent vascular events by 20% but increases major bleeding by 38%.

For patients with TIA, adding clopidogrel to aspirin creates a non-significant decrease in CVA but increases major bleeding.

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Now the CHANCE trial (Clopidogrel in High Risk Patients with Acute Nondisabling Cerebrovascular Events) was a large study (n=5,170) which looked at 90 day outcome of aspirin plus clopidogrel vs aspirin alone in patients at high risk for recurrent TIA. The results were an absolute decrease of 3.5% of TIAs with no difference in ICH conversion. Most of this benefit was seen in the first few days.

Unfortunately, many physicians will simply parrot the idea of adding clopidogrel to aspirin to prevent stroke in high risk patients - without asking other very essential questions.

1. The 5,120 patients in the study were chosen from a pool of 41,561 patients. None of the selected patients (12%) were at risk for CNS hemorrhage transformation, therefore its application to a general population is dubious.
2. All of the patients are Chinese which have an increased incidence of extracranial large artery atherosclerosis and different polymorphisms for metabolism of clopidogrel.
3. Finally, one needs a window larger than 90 days to evaluate bleeding risk of aspirin plus clopidogrel.

Before anyone jumps on "add Plavix to aspirin" for recurrent TIA, we need a good US trial in a general population which looks significantly longer than 90 days.

N Engl J Med 369; 1; July 4, 2013: 11-19



COST/ID: "Therapy must be affordable"

While famciclovir (Famvir) and valacyclovir (Valtrex) may be theoretically better than acyclovir (Zovirax) specifically for herpes zoster (VZV), it is important that patients be able to afford the medication. And with herpes zoster, the sooner you start the better (don't wait till a friend can loan them money). Here are some cost considerations for an antiviral (usually started within 72 hours) for a herpes zoster outbreak:

acyclovir (Zovirax) 800mg 5x daily x 7d = \$19

famciclovir (Famvir) 500mg tid x 7d = \$65

valacyclovir (Valtrex) 1 gram tid x 7d = \$80

1. Review on herpes zoster N Engl J Med July 18, 2013; 369; 3: 255-63
2. Drug information from Wesley Outpatient Pharmacy

NEURO: "ABCD₂ score is unhelpful"

The risk of stroke after TIA is about 10% at 3 months with half of these strokes occurring in the first 2 days.

The ABCD score and subsequent modification (ABCD₂ score) were developed to help risk stratify these high risk TIA patients.

Unfortunately, a recent review^{1,2} which is the largest prospective study in the ED to date, reports the ABCD₂ score has poor accuracy.

1. Sanders LM et al. "Performance of the ABCD₂ score for stroke risk post TIA" Neurology 2012; 79: 971-80
2. Ann Emerg Med 62(1); July 2013: 14-15

PREVENTION/CV: "Lifestyle changes do not reduce serious outcomes in diabetes"

Recommendations to lose weight by increasing activity and decreasing calories have been a mainstay of diabetes care. This recommendation has been based upon physiological studies, observational studies and randomized controlled trials - but all of this data was rather limited with little focus on clinical outcome (just HgA₁C levels as a surrogate marker).

The primary results of a large randomized controlled trial of the long-term effects of an intensive lifestyle intervention targeting weight loss on CV outcomes in patients with type II diabetes. This is reported in the AHEAD study (Action for Health in Diabetes) in which 5145 obese patients with type II diabetes participated in intensive lifestyle modifications targeting a 7% weight loss.

The intervention group did lose 8.6% of body weight (compared to 0.7% of non-intervention). The better weight loss resulted in decreased waist circumference, lower HgA₁C levels - nevertheless the intervention had no appreciable effect on cardiovascular outcomes at 9.6 years when the trial was stopped.

N Engl J Med 369; 2; July 11, 2013: 189-91 (145-54)

BUSINESS: "Convenience store medicine"

Retail clinic care (eg Walgreens, Target, etc) has multiplied x 4 from 2007-2009 and accounted for 6 million visits annually. Numbers have rocketed since then.

These "instant care" clinics are staffed by nurse practitioners or physician assistants. They are out-of-pocket for patients but at a lower cost. One concern is that this convenience will result in over-prescribing and poor quality medicine.

But perhaps more devastating is the financial pressure it places upon real ERs who are required to see people who cannot pay - and now siphons off more paying patients wanting same day care.

JAMA July 3, 2013; 310(1): 35-36



MYTH: "Fructose and high fructose corn syrup (HFCS)"

High fructose corn syrup (HFCS) and its potential effects upon obesity, diabetes and other health effects is a hot popular topic. Like most fads in the popular media, very simplistic statements are made without divulging or presenting the scientific complexity of such popular assumptions.

The first assumption (which is wrong) is that whatever glucose can do adversely, fructose will be worse. Apart from the scientific facts that these two sugars are metabolized very differently, a recent meta-analysis found no adverse effects of isocaloric substitution of fructose and glucose upon body weight, lipid profile, uric acid or insulin levels.

Another argument against fructose and HFCS is that at exceptionally higher levels, fructose begins to have toxic effects. One interesting response to this was a small study (n=17) of adults who ate 20 servings of fruit a day (supplemented with nuts). Despite the extraordinarily high amounts of fructose consumed, there were no adverse effects on body weight, blood pressure, insulin or lipid levels at 12-24 weeks.

JAMA July 3, 2013; Vol 319/1: 33-34

UROLOGY:
"Risk stratifying hematuria"

In the ER, we often stumble across asymptomatic hematuria on urinalysis. There has not been a unified approach to these patients. Recently, the Kaiser Permanente system did a test cohort of 2630 patients to risk stratify patients with asymptomatic hematuria, and published a Hematuria Risk Index.

The Hematuria Risk Index is as follows:

- ♦ *gross hematuria and/or age > 50* 4 points
- ♦ *history of smoking* 1 point
- ♦ *male gender* 1 point
- ♦ *> 25 RBC/HPF* 1 point

The range is from 0-11 points with:

- low risk* (0-4 points)
- moderate risk* (5-8 points)
- high risk* (9-11 points)

Using this risk index, cancer was detected in 10.7% of high risk, 2.5% of moderate risk patients and 0% of low risk patients.

One of many take home points from this paper is if you have a patient less than 50 years of age without gross hematuria the chance of cancer is closer to zero.

Mayo Clin Proc 2013; 88: 129-38

CRITICAL CARE: "SIRS definition"

"Sepsis" is a continuum that begins as "Systemic Inflammatory Response Syndrome" (SIRS) and extends to the other end of the spectrum as septic shock. These definitions are outlined by the American College of Chest Physicians.

Systems Inflammatory Response Syndrome (SIRS) does NOT have to be an infection as long as two of the following are met:

- ♦ temp > 38.5 or < 35
- ♦ heart rate > 90
- ♦ WBC > 12 or < 4 or > 10% bands
- ♦ RR > 20 or need for ventilation

Sepsis is the above with documented infection.

Clin Chest Med 2008; 29(4): 585-90

ORTHO: "Finger injury correction"

I recently received the following correction which I would like to share with our readers:

"I am writing regarding the recent update with the lateral x-ray of the finger fracture. That injury does not cause extensor rupture at the PIP joint. That is an unstable dorsal fracture/dislocation. I do not know what the "safe position" is as position of splinting depends on the injury. This is a hyperextension injury so splinting in extension will result in joint displacement and a poor outcome. This should be splinted in flexion with post splinting x-ray to verify joint reduction. If the fracture were on the other side (ie. dorsal) the opposite would be true and splinting in extension would be indicated. I do applaud stressing finger x-rays for finger injuries. The incorrect x-ray is one of the most frequent mistakes made and not accepted well by patients when they see the correct x-ray."

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QUEAS-E
CME
September 2013

There is now an option to take the post-test in an online format instead of submitting on paper. You can use the below link and it will take you through the same post-test that follows below the link. Our CME department is then able to access the list of who has completed the test electronically and will give CME credit as appropriate. This will hopefully make it more convenient for all to take the test and for credit to be given. You can continue to use the paper format post-test also.

<https://www.surveymonkey.com/s/SeptemberQUEAS-E>

Name _____

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1. FAST Exam has:
 - a. excellent positive predictive value
 - b. excellent negative predictive value
 - c. both

2. The test with the best negative predictive value for abdominal trauma:
 - a. plain film
 - b. FAST
 - c. CT abd and pelvis

3. Which of the following antivirals is considerably cheaper:
 - a. acyclovir
 - b. famciclovir
 - c. valacyclovir

4. The ABDC₂ Score has not been shown to be accurate. T or F

5. High fructose corn syrup now has clear evidence to cause obesity. T or F

6. Which of the following has the highest risk for a uroepithelial cancer:
 - a. smoking
 - b. > 25 RBC/HPF
 - c. male
 - d. gross hematuria

7. Definition of SIRS is:
 - a. temp > 38.5
 - b. HR > 90
 - c. WBC > 12 or < 4
 - d. RR > 20
 - e. all of the above

Circle the one correct answer.

To complete this educational activity, please check your test for accuracy. The correct answers can be found on the evaluation.

(Evaluation following)

Continuing Medical Education QUEAS-E Update Evaluation

Please circle a response to the following:

1. Having read this CME activity, the participant should be better able to: demonstrate an increased awareness of current practices, new therapies and new technologies appropriate for patients in the Emergency Department?

Agree 5 4 3 2 1 Disagree

2. The educational content in this CME article will be:

Very useful 5 4 3 2 1 Not at all useful

3. In this article I learned:

A great deal 5 4 3 2 1 Little

4. As a result of this CME article do you anticipate making a change in your practice?

Yes [] No []

5. Additional comments:

6. What topics would you suggest for future articles?

(Answers to post test: 1. a 2. c 3. a 4. T 5. f 6. d 7. e)

For CME credit, please mail this sheet to: Wesley CME Dept., 550 N. Hillside, Wichita, KS 67214

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