BEST EVIDENCE TOPIC REPORTS

Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary

Edited by K Mackway-Jones, *Professor*

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Best Evidence Topic reports (BETs) summarise the evidence pertaining to particular clinical questions. They are not systematic reviews, but rather contain the best (highest level) evidence that can be practically obtained by busy practicing clinicians. The search strategies used to find the best evidence are reported in detail in order to allow clinicians to update searches whenever necessary. Each BET is based on a clinical scenario and ends with a clinical bottom line which indicates, in the light of the evidence found, what the reporting clinician would do if faced with the same scenario again.

The BETs published below were first reported at the Critical Appraisal Journal Club at the Manchester Royal Infirmary[1] or placed on the BestBETs website. Each BET has been constructed in the four stages that have been described elsewhere.[2] The BETs shown here together with those published previously and those currently under construction can be seen at <http://www.bestbets.org>. [3] Four BETs are included in this issue of the journal.

- ▶ Chest drains in traumatic occult pneumothorax
- ▶ Urine dipsticks in screening for Diabetes Mellitus
- ▶ Clopidogrel plus aspirin or aspirin alone in unstable angina
- ▶ Administration of steroids in acute exacerbations of COPD

1 Carley SD, Mackway-Jones K, Jones A, *et al*. Moving towards evidence based emergency medicine: use of a structured critical appraisal journal club. *J Accid Emerg Med* 1998;15:220-222.

2 Mackway-Jones K, Carley SD, Morton RJ, *et al*. The best evidence topic report: A modified CAT for summarising the available evidence in emergency medicine. *J Accid Emerg Med* 1998;15:222-226.

3 Mackway-Jones K, Carley SD. bestbets.org: Odds on favourite for evidence in emergency medicine reaches the worldwide web. *J Accid Emerg Med* 2000;17:235-6.

Chest drains in traumatic occult pneumothorax

Report by Rachel Jenner, *Specialist Registrar*
Search checked by Ayan Sen, *Clinical Fellow*
Stepping Hill Hospital, Stockport
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A short cut review was carried out to establish whether tube thoracostomy was indicated in trauma patients who have an occult pneumothorax discovered on CT scanning. 279 papers were found using the reported searches, of which six presented the best evidence to answer the clinical question. The author, date, and country of publication, patient group studied, study type, relevant outcomes, results, and study weaknesses of these best papers are tabulated. It is concluded

that minimal occult pneumothoraces can be observed but that there is no evidence to show that this is a safe approach if the pneumothorax is larger.

Clinical scenario

A 30 year old man is brought into the Emergency Department after a road traffic accident. A chest x-ray taken as part of the ATLS trauma series is normal and he has no clinical signs of chest injury. He has an abdominal CT for investigation of blunt abdominal trauma. This reveals an occult pneumothorax. You wonder whether you should insert a chest drain.

Three-part question

In [a patient who has sustained blunt trauma who is found to have an occult pneumothorax on CT scan] is [tube thoracostomy better than observation] at reducing [morbidity and mortality]?

Search strategy

Medline 1966 to October Week 4 2005 using the OVID interface. [exp pneumothorax/ or pneumothorax.mp] AND ([exp "wounds and injuries"/OR trauma.mp] OR chest drain.mp OR exp chest tubes/ OR exp thoracostomy)) AND ([exp Tomography, X-ray computed OR CT.mp] OR occult.mp) LIMIT to human AND English

Embase 1980 to 2005 week 47. [exp pneumothorax/or pneumothorax.mp.] AND [exp injury/or exp wound/ or trauma.mp. or exp thorax drainage/or chest drain.mp. or thoracostomy.mp.] AND [exp computer assisted tomography/ or CT.mp. or exp occult blood/] Limit to human and English, Age groups - All adult 18-64 years and 64 years >

The Cochrane Library Issue 4 2005. Chest drains [MeSH] AND pneumothorax [MeSH] 23 hits

Outcome

Altogether 279 papers were found of which 273 were irrelevant or of insufficient quality for inclusion

Comments

All the papers report small numbers. There are conflicting results. Some classify occult pneumothoraces into size but different techniques are used

▶ CLINICAL BOTTOM LINE

It appears reasonable to treat minimal occult pneumothoraces with observation, there is no evidence whether it is safe to extend this to larger occult pneumothoraces

Garramone RR Jr, Jacobs LM, Sahdev P. An objective method to measure and manage occult pneumothorax. *Surg Gynecol Obs* 1991;173:257-261.

Collins JC, Levine G, Waxman K. Occult traumatic pneumothorax : immediate tube thoracostomy vs expectant management. *Am Surg* 1992;58:743-6.

Anderson BL, Abdalla R, Frame SB, *et al*. Gould H, Maull KI. Tube Thoracostomy for occult pneumothorax: a prospective randomized study of its use. *J Trauma Injury Infection Criti Care* 1993;35:726-30.