Letters to the editor

Evidence-based emergency medicine in Hong Kong: from theory to practice [Editorial] (Hong Kong J Emerg Med 2003;10;199-201)

Dear Editor,

I read with interest your editorial on Evidence-based Emergency Medicine in Hong Kong. I agree with you that many questions on EBM emergency practice in Hong Kong remains unanswered. Nonetheless, as I have conducted several studies into the information behaviours of clinicians (including doctors, nurses and allied health professionals) in Hong Kong public hospitals, I wish to share and highlight some of my findings on clinical question formulation, literature searching, as well as information access and use.

A study of the clinical questions posed by hospital clinicians was conducted using triangulation (combining results from survey research and randomised controlled trial).[1] The research found that EBM approach in expressing the clinical problem as question was not universally adopted by all groups of clinicians in hospitals. The triangulation methods have gathered interrelated evidence to reject the hypothesis that the building of well-structured clinical questions would directly bring about higher satisfaction with information obtained and higher success in problem solving.

On the other hand, a double-blind randomised experimental study (n=800) showed that a three-hour end-user search training (reinforced by hands-on practice) was more effective than no training in improving clinical question formulation, in raising awareness, knowledge, confidence and use of databases, but had made no impact on preference for secondary databases (e.g. Cochrane DARE) very much advocated by EBM.[2] It changed the attitude of clinicians to become more positive towards the use of electronic information services (EIS). Participants had higher search performance and outcomes (satisfaction with information obtained (NNT [number needed to train]=3), EIS satisfaction (NNT=3) and success in problem solving (NNT=4)). These effects gradually eroded with time however. Similar to overseas findings, search logs confirmed that follow-up is required if effects are to be sustained. Longer effects on search behaviours are positive.

Unfortunately no studies by specialty interests, such as Emergency Medicine, have been undertaken. Nonetheless, it is hoped that the above would help answer at least some of the questions raised in your editorial.

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An intravenous drug addict presenting with 'shortness of breath': case report (Hong Kong J Emerg Med 2004: 11:60-4)

Dear Editor,

I read the article "An intravenous drug addict presenting with 'shortness of breath': case report" and much appreciated. According to the article, tetanus was diagnosed clinically in the accident and emergency department and penicillin was given intravenously (page 61). However, penicillin, being a centrally acting GABA(A) antagonist, would potentiate the effects of tetanospasmin and hence it should be avoided. Would the author please comment on this?

(Reference: David MC. Just the fact in Emergency Medicine. Boston, USA: McGraw-Hill; 2001. p. 288.)

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Author's reply

Dear Editor,

I would like to thank Dr. Sia for raising this point for discussion. The main emphasis of my case report was on diagnosis, and not on treatment.

Penicillin is readily available and is still used frequently in most parts of the world, although antibiotics for Clostridium tetani probably play a relatively minor part in the specific treatment of the disease.[1-5] The structure of penicillin is similar to gamma-aminobutyric acid (GABA) – the principal inhibitory neurotransmitter in the central nervous system. Penicillin could therefore act as a competitive antagonist on the alpha subunits of GABA receptors, and synergise with the action of tetanus toxin in blocking transmitter release at synapses, even though it does not readily cross the blood-brain barrier.[5,6]

Metronidazole may be the antibiotic of choice, and may now be considered as the first line therapy.[5,6] In 1985, Ahmadsyah et al in an open, non-randomised trial among 173 patients first compared procaine penicillin (not crystalline penicillin) and metronidazole, and showed a reduction in mortality in the metronidazole group.[7] In 1997, a much larger study of 1,105 patients conducted by Yen et al showed that there was no significant difference in mortality between the penicillin and metronidazole groups. However, the metronidazole group required fewer muscle relaxants and sedatives compared with the penicillin group.[8] Third generation cephalosporins have a similar structure to penicillin and should be avoided.[4] Erythromycin, tetracycline, vancomycin, clindamycin, doxycycline, and chloramphenicol might be alternatives to penicillin and metronidazole if these are not available or are contraindicated in individual patients.[9,10]

Finally, tetanus may mimic other conditions such as meningo-encephalitis and a firm diagnosis in the emergency department may be difficult. In practice, it is reasonable in atypical cases to initiate treatment with penicillin, especially those with high fever, and then change to metronidazole when more evidential support becomes available.[11]

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