PostScript

LETTERS

Tension pneumothorax prevalence grossly exaggerated

The recent consensus statement from the faculty of prehospital care stated prevalence of tension pneumothorax which is misleading and up to 20 times higher than that which might be seen by the standard prehospital care practitioner.¹ Further analysis of the two references used for this statement is given and it can be seen that their results should not be extrapolated to the general prehospital environment without qualification.

Coats described tension pneumothorax in up to 5.4% of patients, 64% of whom were ventilated. They were also a major trauma subgroup.²

McPherson looked retrospectively at US soldier fatalities in Vietnam—when there was no prehospital chest decompression.³ His abstract and discussion, however, misrepresent the figures stated in his results and the study has methodological flaws. Accepting these flaws though, he observed that fatal tension pneumothorax may have occurred in up to 0.3% of American casualties (26/7801) and 3.9% of casualties who died with signs of a chest wound (26/663). Despite its flaws, the McPherson's paper may be more applicable to the average prehospital clinician as it looks purely at awake patients.

However, the external validity of both these papers (which look at high risk groups) to prehospital clinicians seeing a predominance of blunt trauma, awake patients should be questioned. The inference that should be taken away by the reader is that "fatal tension pneumothorax is very unlikely to occur in more than 0.3% of awake patients encountered in pre-hospital care". Even this is probably too high, but may go some way to stemming the tide of iatrogenic, needle induced pneumothorax.

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References

- 1 Lee C, Revell M, Porter K, et al. The prehospital management of chest injuries: a consensus statement. Faculty of Pre-hospital Care, Royal College of Surgeons of Edinburgh. *Emerg Med J* 2007;24:220-4.
- 2 Coats TJ, Wilson AW, Xeropotamos N. Pre-hospital management of patients with severe thoracic injury. *Injury* 1995;26:581-5.
- 3 McPherson JJ, Feigin DS, Bellamy RF. Prevalence of tension pneumothorax in fatally wounded combat casualties. *J Trauma* 2006;60:573-8.

Response: tension pneumothorax prevalence grossly exaggerated

In our article we stated:

(1) "tension pneumothorax is a rare prehospital event, particularly in blunt trauma"

(2) "it is difficult to assess the exact numbers accurately as thoracocentesis is often performed in the absence of a true tension pneumothorax"

(3) "recent studies show a prevalence of less than 6%".

We believe the comments in your letter concur with this.

In your excellent review of tension pneumothorax in the *EMJ* in 2005 you also described the same incidence, stating "TPT was confirmed (hiss of air on decompression) in 5.4% of major trauma patients (64% whom were ventilated) treated by prehospital doctors in London".¹

With regards to your comment of hoping that awareness of the very low prevalence of tension pneumothorax will help in "stemming the tide of iatrogenic needle induced pneumothorax", we would agree that unnecessary needle decompression does occur in practice. However, prehospital practitioners should not believe that tension pneumothorax is so unlikely that they fail to treat a reversible life threatening condition in the individual patient who is deteriorating or is peri-arrest following a chest injury. We would rather an iatrogenic simple pneumothorax than a patient who dies from a simple reversible cause because the practitioner believed it to be so rare.

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Reference

- 1 Leigh-Smith S, Harris T. Tension pneumothorax—time for a rethink? *Emerg Med J* 2005;22:8-16.

Mouthwash for anaphylaxis

We were called to the emergency department to help manage a suspected case of anaphylaxis. Shortly after eating hazelnuts, a middle aged man developed lip and tongue swelling and complained of difficulty in breathing. On arrival at accident and emergency this had progressed so that he was unable to speak, demonstrated pronounced inspiratory stridor and had obvious tongue swelling, although air entry remained good with no wheeze on auscultation. He was cardiovascularly stable.

Initial management of high flow oxygen, epinephrine (adrenaline) nebulisers, intravenous access and fluids and a 20 µg bolus of intravenous epinephrine (1:100 000 dilution) produced rapid improvement with a notable reduction in the stridor. Intravenous chlorpheniramine and hydrocortisone were commenced and monitoring continued in the resuscitation room. However, after 45 min, his condition deteriorated with return of the stridor and pronounced lip swelling. This improved with repeated epinephrine administration. However, the fluctuating pattern to his condition continued with repeated development of upper airway oedema that rapidly resolved following nebulised and intravenous epinephrine.

Eight hours after initially ingesting the nuts the patient was given a simple mouthwash and advised to brush his teeth. When his mouth was rinsed, small fragments of nut were noted in the water. Following this he remained stable, with no further lip or tongue swelling and no recurrence of the stridor. He was admitted, made an uneventful recovery and was discharged after 48 h.

Follow up by the Allergy Department confirmed a previously unidentified allergy to hazelnuts.

Resuscitation Council Guidelines for the emergency management of anaphylaxis¹ fails to mention discontinuation of the causative agent, although in earlier suggested guidelines this is mentioned.² We believe this case illustrates the importance of identifying and removing the causative agent when managing cases of anaphylaxis. In this case, earlier removal of the "triggering" nuts may have prevented the continued reactivation of the allergic response.

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References

- 1 Resuscitation Council (UK). The emergency medical treatment of anaphylactic reactions for first medical responders and community nurses. Revised Jan 2002, May 2005 (originally published July 1999). <http://www.resus.org.uk/pages/reaction.htm>.
- 2 Gavalas M, Sadana A, Metcalf S. Guidelines for the management of anaphylaxis in the emergency department. *J Accid Emerg Med* 1998;15:96-8.

Wind storm

On Thursday 18 January 2007, heavy storms battered England and much of Europe. The Meteorological Office reported that wind speeds were the highest in the UK in 17 years. Recorded winds between 70-80 mph tore across Britain, blowing trees across rail lines, cutting off power to thousands, and causing roofs to collapse. Across Britain, there were three weather related deaths: two deaths caused by collapsing walls and one due to a falling tree crushing its victim. We examined the attendance in accident and emergency for the 6 h period following the severe weather that hit the UK earlier that morning and assessed its impact on the hospital services. An audit of accident and emergency activity performed on that day in a busy London hospital revealed the following.

Three hundred and nine patients were seen on the 18 January in our accident and emergency department, of which 120 were seen between 13:00 and 19:00. Eleven