

The problem of course is that there are far too few neurologists in the UK, and a neurologist of any grade in a UK ED is a rare sight indeed, with one or two notable geographic exceptions. However, I believe this has to change, and neurologists must become more involved in the assessment and management of acute neurological problems, of which acute headache is surely one of the most common. The Association of British Neurologists thinks the same, and the document 'Acute neurological emergencies in adults' that critically ill patients with neurological disease should be seen by a neurologist immediately, and that all patients with neurological disease who do not require immediate intervention should be seen within 24–48 hours of admission. The document noted that currently there are insufficient numbers of neurologists to hope to achieve this UK wide, but it is certainly an appropriate aspiration, and without such carefully calculated plans for the future, expansion is unlikely to happen.

Reference

- 1 Association of British Neurologists. *Acute neurological emergencies in adults*. www.theabn.org/education/publications.html.

Bioterrorism: the need to be prepared

Editor – Colonel Michael J World reviews the steps necessary to minimise the probability of a successful terrorist attack with biological weapons (BW), mentioning that, when possible, effective interventions should be preventive, but he does not discuss this aspect further (*Clin Med* March/April 2004, pp 161–4).

Previous attempts by non-state actors to use BW have had limited success. The Rajneeshee sect contaminated salad bars in restaurants in Oregon in 1984 with *Salmonella typhimurium*, making 750 people ill but with no fatalities. The Japanese Aum Shinrikyo cult, responsible for 17 deaths from the nerve gas sarin in the Tokyo subway in 1995, attempted to develop anthrax, Q fever and the ebola virus as BW, but failed despite having skilled scientists among its members.¹ Thus, state sponsoring might be needed for

the preparation and dispersal of BW for the type of attack described. The person responsible for the postal distribution of weapons-grade anthrax in the USA may have had access to its BW programme.

State use of BW is illegal under the 1925 Geneva Convention, and 150 states are party to the 1972 Biological and Toxin Weapons Convention (BTWC) and have formally renounced the use of BW. A further 16 have signed but not ratified, but some states capable of a BW programme and accused of terrorist links are non-signatories. Unlike the 1996 Chemical Weapons Convention, the BTWC has no verification protocol.

However, progress on a protocol was well advanced by the November–December 2001 5th Review Conference of the BTWC, but was blocked by the United States, despite an adjournment of the conference to November 2002. The reasons adduced – that the proposed protocol would be ineffective and would affect the commercial confidentiality of the US biotechnology industry – seem contradictory.

Immediate progress on a verification protocol for the BTWC seems unlikely in view of the attitude of the current US administration to international arms control. But, pressure by sympathetic countries, and by civil society including medical organisations such as our College, could eventually lead to a near-universal and verifiable BTWC² – a major contribution to the primary prevention of bioterrorism.

References

- 1 British Medical Association. *Biotechnology, weapons and humanity*. Amsterdam: Harwood Academic, 1999.
- 2 Millett PD. Proliferation of biological weapons: challenges and responses. *Med Confl Surviv* 2004;**20**:4–18.

DOUGLAS HOLDSTOCK
Editor, *Medicine, Conflict and Survival*
London

In response

Editor – Dr Holdstock's letter appears to contain three related ideas:

- a) to be successful, an attack with a biological weapon must result in fatalities
- b) manufacture and storage of lethal biological weapons requires resources of a magnitude of which only governments are capable
- c) development of an international convention, incorporating verification protocols, where signatory governments agree not to develop biological weapons, will minimise the risk of terrorists attacking with biological agents.

I support wholeheartedly any measure that limits the availability of any unconventional weapon, including biological agents. In my article, the paragraph headed 'Factors facilitating attack' was an editorial distillate of several paragraphs in the original submission where many interventions to minimise the risk of a successful attack, not just production and storage facilities, were considered in detail. However, I believe that a successful attack with a biological agent does not necessarily have to result in fatalities: severe economic disruption may be a sufficient outcome. In consequence, the facilities for safe manufacture and containment before dispersal might not be that dependent on enormous resources. Therefore, it would be false to assume that an international convention would necessarily provide adequate protection.

The whole thrust of my article was that, sadly, it is necessary to contemplate that an attack with a biological weapon could be successful and that measures must be in place to minimise the distress, disruption and economic consequences. While I agree that the College should encourage any measure to limit availability of biological weapons, it should also assume the responsibility to ensure adequate education of civilian physicians so that the capability exists to deal with an attack by terrorists on the population in a competent and professional manner.

COLONEL MJ WORLD
DMS Professor of Military Medicine
Royal Centre for Defence Medicine, Birmingham