Timing of surgery following fractured neck of femur

EDITOR,—I am interested in the findings and suggestions of Grocott et al.1 in their abstract. Having shown a relative risk of 39.5 for patients operated on out of hours, they quite rightly suggest that these patients are placed on routine operating lists without exception. Why then, having shown a relative risk of 3.84 in those patients operated on within 24 hours of admission, do they make the seemingly contradictory suggestion that they are still operated on “where possible, within 24 h of admission”? I presume that this is to remain in line with the recommendation of the Royal College of Physicians (RCP). The paper has a list of the only paper referenced by the RCP in support of this statement that were not standardised in terms of nursing care and physiotherapy. (Neither did this paper contain the information actually referred to by the RCP.)

There are, however, two large studies which suggest that these patients are placed on routine operating lists without exception. A retrospective analysis of 538 patients2 showed an increased mortality associated with a delay of greater than 24 hours from admission to surgery. The other, a retrospective analysis of 406 patients,3 found a mortality of 34% in those operated on within one day, which fell to just 5.8% for those taken to theatre on days 2–5 (P = 0.00001).

The evidence for early operation is not clear cut and the results of this study would support this argument. My concern is that in trying to improve on the often inadequate care we have offered in the past, we are focusing excessively on the relatively easy goal of getting these patients to theatre quickly. When poorly prepared patients admitted “out of hours” appear on the following morning’s trauma list, it is easy to speculate that this is not optimum for the patient. We need rather to concentrate our efforts on good quality surgical management/preparation and properly conducted, more senior, anaesthetic assessment. These more difficult aims (also recommended by the RCP) will, I believe, serve our patients interests better.

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Sarin

EDITOR,—We read with interest the article by A P Volans on sarin, giving guidelines on the management of victims of a nerve gas attack.1 We would like to draw attention to a number of factual inaccuracies which have important repercussions for the contaminated casualties and those who treat them.

General

Chemical weapons can, from a clinical perspective, be divided into “fast acting” and “delayed acting”. Fast acting include the cyanides and nerve agents, and effects can be seen within seconds or minutes. The effects of delayed acting agents, such as phosgene (inhaled) and the mustard (skin contact), may not be seen for hours or days. From a military point of view fast acting agents are used to kill, whereas delayed acting agents are used to incapacitate. The terrorist wishes to induce acute panic and fear, and consequently the fast acting agents are appealing: this was demonstrated by the AUM Shinkyo cult who used sarin, and attempted to use cyanide, in Tokyo.

Nerve agents

The nerve agents are powerful polar organic solvents and will penetrate most fabrics, including rubber over time.2 The persistence of all these agents can be enhanced by using thioisotropic (thickening) agents. However, as the persistence increases the volatility decreases—for example, in a spring temperate climate a thickened agent, “VX”, provides a minimal inhalation threat, but can be lethal if touched without protection.

The main routes of absorption of these agents are through the respiratory system or the skin (whether there are breaks in the skin or not). Miosis will only occur if their direct corneal exposure to vapour. If a nerve agent contaminates a wound following coating of a missile fragment, the result is usually death.3

As Volans says, the nerve agents are different in structure to the organophosphates used as pesticides—one should be careful, therefore, not to make assumptions regarding the long term effects following nerve agent exposure based on the clinical experience with pesticides.

General management

The current military management of suspected nerve agent poisoning is not quite as Volans suggests. Prophylaxis is indeed with oral pyridostigmine 30 mg every hour, but first aid treatment is with a combination of atropine 2 mg, pralidoxime mesilate 500 mg, and avizafone 10 mg (equivalent to 5 mg diazepam) given intramuscularly through a Combopen.

Casualty decontamination is by removal of the casualty’s clothing, or individual protective equipment (IPE) when worn, and the use of a detergent and bleach solution. Fuller’s earth is not used because of its cytotoxic effects.4 Advanced medical treatment follows the principles of the Chemical warfare advanced life support (CW ALS) system.5

Under no circumstance should a casualty be enclosed in a heavy plastic pouch as this will increase the amount of many chemicals absorbed through the skin, and in the case of nerve agents will rapidly lead to severe poisoning and probable death.

If the postoperative reports from the Iran-Iraq war can be believed, the aggressive use of atropine over a 20 to 30 minute period (titrated against clinical response), together with oximes, leads to a rapid recovery from even the most severe nerve agent poisoning. The requirement for assisted ventilation might therefore reflect a timid use of atropine in the primary resuscitation phase.

Sarin—A potential new agent of mass destruction

The potential requirement to manage a large number of chemical casualties has been a problem for the defence medical services for many years, and this has led to the development of the CW ALS course concept in 1994. The course provides a systematic approach to the management of a chemical casualty, with teaching principles similar to those on an Advanced life support course or Advanced trauma life support course. At present this is only available to military medical personnel, although the principles could be equally applied by civilian medical staff.

Civilian approach

The civilian emergency services, including the vast majority of accident and emergency departments, are poorly prepared to manage a hazardous chemical major incident.6–7 No standard agreement exists between the fire and ambulance services to determine who is responsible for the scene management of contaminated and severely poisoned casualties. In