Intensive care of severely head injured patients

Working party is looking at guidelines

EDITOR,—D R Jeevaratnam and D K Menon highlight inconsistencies in the intensive care management of patients with severe head injury.¹ A telephone survey that I carried out of on call neurosurgical staff at neurosurgical centres in Britain in 1994 identified inconsistencies not only in hospital management but also in criteria for accepting patients, the provision of guidelines for transfer, and audit of outcomes.

Out of 30 centres surveyed, only six had written criteria for accepting patients and only 25 were consistent within the unit. Only one unit had written guidelines for transferring patients. Only four units had a written policy for hospital care, and in nine the care varied among consultants. This survey identified inconsistency not only in more aggressive methods to control intracranial pressure or cerebral perfusion pressure, as Jeevaratnam and Menon found, but also in basic aspects of treatment, such as the administration of transfused fluids and use of head up tilt. There was little use of those monitoring systems that are accepted as being more specific indicators of the benefits or otherwise of aggressive treatment—that is, jugular venous oxygen saturation, transcranial Doppler monitoring, and monitoring of cerebral function. Sedation scores were used in only three units. Evaluation of progress and the use of loop diuretics, anticonvulsants, and inotropes or vasopressors to modify cerebral perfusion pressure were inconsistent. Audit activity was extensive in only one unit.

The Royal College of Surgeons produced its report on head injuries 10 years ago.² As Jeevaratnam and Menon suggest, it would be sensible to have consensus guidelines on this aspect of care and to audit their implementation and outcome. This is critically important since, although it can be argued that a consistent higher standard of care would reduce the incidence of death and extreme disability, it can equally be argued that “enthusiastic” treatment is increasing the incidence of extreme disability and persistent vegetative state while reducing the population of organ donors. As a first step the Neuro-Anaesthesia Society of Great Britain and Ireland has established a working party to look initially at criteria and guidelines for transfer and to support the development of a database on management in hospital. It is hoped that this will start to address the concerns highlighted by Jeevaratnam and Menon.

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- 1 Jeevaratnam DR, Menon DK. Survey of intensive care of severely head injured patients in the United Kingdom. *BMJ* 1996;312:944-7. (13 April.)
- 2 Royal College of Surgeons of England. *Report of the working party on head injuries*. London: RCSE, 1986.

Answers may have reflected perceived rather than actual management

EDITOR,—D R Jeevaratnam and D K Menon highlight the variability in the management of head injury.¹ The methods that they used in their

survey, however, are difficult to validate. To assess the management of severe head injury the authors asked questions of the nurse in each intensive care unit. They do not describe the actual questionnaire they used and how they validated its use before applying it nationally.

In the Institute of Neurological Sciences in Glasgow we have a dedicated neurosurgical intensive care unit with eight beds and a high throughput of patients with head injuries. To assess the validity of the authors' paper we asked seven staff nurses or more senior nurses the same questions that the authors used. The results from our unit showed the same variability as those in the national survey. For example, two of the nurses stated that the device usually used for monitoring intracranial pressure was a ventriculostomy whereas we regularly use a subarachnoid bolt, and three of our nurses believed that we used corticosteroids in the management of severe head injury, which we do not. The medical staff in Glasgow are aware that the use of corticosteroids has no proved benefit in the management of severe head injury. Results regarding the target arterial carbon dioxide pressure and sedation and paralysis were equally varied.

Finally, the paper defines severe head injury as a Glasgow coma score of less than 8 but does not explain how the authors ensured that the member of staff who replied to the questions understood this definition. The authors cannot conclude that the intensive care of head injury varies widely across Britain; the data collected may represent the perception of management by members of the nursing staff rather than the actual medical management.

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- 1 Jeevaratnam DR, Menon DK. Survey of intensive care of severely head injured patients in the United Kingdom. *BMJ* 1996;312:944-7. (13 April.)

National research is needed

EDITOR,—D R Jeevaratnam and D K Menon report variations in attitudes towards the care of head injured patients but seem unaware of previous and current efforts to produce the national guidelines that they call for.¹ Guidelines for the initial assessment of patients and for referral to specialist units were reported a decade ago² and have been widely adopted. Recommendations to take account of the wider availability of computed tomography³ are currently being considered by a working party of the Society of British Neurological Surgeons, and recommendations for arrangements for the care of severely injured patients during transfer have been prepared by the Neuro-Anaesthesia Society and the Association of Anaesthetists.

Aspects of intensive care that Jeevaratnam and Menon found to be so variable have been subjected to rigorous analysis by a task force of the American Association of Neurological Surgeons and Joint Section in Neurotrauma and Critical Care, with support from the Brain Trauma Foundation. Unfortunately, little class I

evidence (randomised controlled clinical trials) was found on which to base standards of practice, except for the ineffectiveness of steroids, of anticonvulsants in preventing late seizures, and of chronic hyperventilation (arterial carbon dioxide pressure <25 mm Hg). After consultation with the European Brain Injury Consortium, however, guidelines and options for practice have been formulated.

We agree that different activities now need to be drawn together and national guidelines produced as a basis for the formulation of local protocols. There is also, however, a need for national research to produce definitive evidence on which these guidelines can be based and without which wide variations in approach are likely to continue.

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- 1 Jeevaratnam DR, Menon DK. Survey of intensive care of severely head injured patients in the United Kingdom. *BMJ* 1996;312:944-7. (13 April.)
- 2 Guidelines for initial management after head injury in adults. Suggestions from a group of neurosurgeons. *BMJ* 1984;288:983-5.
- 3 Teasdale GM, Murray G, Anderson E. Risks of acute traumatic intracranial haematoma in children and adults: implications for managing head injuries. *BMJ* 1990;300:363-7.

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