Head injuries in the elderly

Although head injury is most common between 15 and 30, no age group is exempt.¹ Guidelines for managing patients with head injuries usually contain the caveat that they do not apply to those aged under 13.² Children are more difficult to assess than adults, and complications develop with less warning.³ But are the old also different? Do those over 65 present differently and need different management? Most important, is their outcome affected by age?

Head injuries in those over 65 accounted for 14% of the admissions to a head and spinal injury unit of a teaching hospital.⁴ Half of these patients lived alone, and a greater proportion than would be expected therefore had to be admitted. Indeed, many patients with trivial head injuries are admitted for social reasons, and because almost half of the patients are already supported at home they are likely once admitted to be in hospital for a longer time than the rest of the population.

The elderly with head injuries do present differently from the rest of the population. A head injury occurs as often in elderly women as men, whereas in the rest of the population it is three times more common in men. The injury is more often due to a fall and less often to a road traffic accident or assault. Alcohol is the cause of injury in half the elderly men, which is a higher rate than in some series of minor head injuries⁵ but similar to that in others.⁶ Most of the elderly patients have a medical disorder that may be obscured by the head injury.⁷ More importantly, the medical disorder may obscure the head injury and mislead the doctor into making a wrong diagnosis. For instance, hemiparesis may be wrongly attributed to a cerebrovascular accident and the traumatic intracranial haematoma missed.⁸

The main problem for elderly patients with head injuries is that they have a reduced cerebral reserve and are less able to withstand even a minor injury. Brain damage from the minor injury when added to pre-existing impairment short of frank dementia may lead to cognitive defects severe enough to preclude discharge or independent living.⁴ This relationship between age and outcome is particularly important in severely injured patients. For each year that a patient in coma for at least six hours is over 35 the chance of death increases by about 3.6%—so that by 75 the chance of dying or being left in a vegetative state is almost 100%. Age is therefore important to consider when deciding on the

management of the patient with a head injury, particularly a severe one.

Head injuries in the elderly do need to be managed differently. Extra vigilance is needed in more minor injuries. A skull radiograph should be taken, and if there is a fracture an associated hemiparesis should be assumed to be caused by a traumatic intracranial haematoma not a stroke. Doctors are likely to regard an elderly confused patient without a skull fracture as a less pressing problem than a younger patient with confusion because the reduced cerebral reserve of the elderly makes confusion more likely. Nevertheless, if the confusion persists for more than 12 hours in a patient who was previously mentally alert then a computed tomogram should be considered. Any suggestion of deterioration requires immediate action.

In the very old patient with an injury severe enough to cause immediate coma the doctor must reverse the temporary effects of hypoxia and hypovolaemia. The difficult decision arises when patients remain in coma. Survival is unlikely, particularly in those over 75. Is it in their own best interest to continue with treatment? Should they be transferred to a neurosurgical unit? Probably not, but this has to be decided independently and carefully. As with younger patients, much may be gained by vigorously correcting extracranial problems and detecting early an intracranial haematoma. These benefits should not be denied to patients simply because they are old.

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- 1 Jagger J, Levine JJ, Jane JA, *et al.* Epidemiology of head injury in a predominantly rural population. *J Trauma* 1984;24:40-4.
- 2 A Group of Neurosurgeons. Guidelines for initial management after head injury in adults. *Br Med J* 1984;288:983-5.
- 3 Galbraith SL. Age distribution of extradural haemorrhage without skull fracture. *Lancet* 1973;i:1217-8.
- 4 Roy CW, Pentland B, Miller JD. The causes and consequences of minor head injury in the elderly. *Injury* 1986;17:220-3.
- 5 Galbraith SL, Murray WR, Patel AR, Knill-Jones R. The relationship between alcohol and head injury and its effects on the conscious level. *Br J Surg* 1976;63:128-30.
- 6 Holmes AE. The many problems of head injury. *Geriatric Medicine* 1982;12:69-74.
- 7 Galbraith SL. Delayed and mis-diagnosis in acute traumatic intracranial haematoma. *Br Med J* 1976;ii:1438-9.
- 8 Teasdale G, Skene A, Spiegelhalter D, Murray L. Age, severity, and outcome of head injury. In: R G Grossman, P L Gildenberg, eds. *Head injury: basic and clinical aspects*. New York: Raven Press; 1982:213-20.