Anaesthetic management of the elderly surgical patient with cognitive impairment

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Up to 25% of patients over 80 years of age have cognitive impairment. A chronic, progressive decline in global intellectual function is often referred to as dementia, of which Alzheimer's disease is the commonest form. Dementia can include behavioural and communication difficulties, making patients challenging to both assess and manage.

There are a number of specific concerns which anaesthetists should be aware of regarding these patients.

A collateral history from next of kin, regarding previous anaesthesia and surgery, current medications and medical problems is often enlightening.

A family member assisting with clinical examination can be helpful. Sensory deficits, e.g. hearing loss, decreased visual acuity and declining mobility, make examination challenging. Disturbances of thought, including paranoid ideation, may feature. Where available, communication aids which amplify sound should be used. Many patients have multiple medical problems, so allowing ample time to examine the patient is crucial.

The patient's mental state should be assessed separately. The abbreviated mental test score takes moments to perform. The mini-mental state examination (MMSE) (Folstein et al, 1975), scored out of 30, is well validated. Obtaining a baseline measure allows subsequent changes in mental state to be documented objectively. This is especially important in the context of sedation, concurrent infection and recovery from anaesthesia, which may dramatically alter the patient's behaviour.

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Obtaining consent from the cognitively impaired patient may require consent from their legal guardian. If a patient has a MMSE of 19 or less, legal procedures safeguarding their rights may need to be invoked.

Electrolyte abnormalities are frequently found preoperatively, often caused by diuretics, selective serotonin reuptake inhibitors or angiotensin-converting enzyme inhibitors. Inappropriate antidiuretic hormone secretion has been described in Alzheimer's disease. Gross abnormalities should be corrected before anaesthesia.

Premedication is aimed at reducing the risk of perioperative morbidity, e.g. aspiration prophylaxis. Sedation outside theatre is best avoided.

Postoperative cognitive decline persisting for up to 3 months has been described in the elderly patient (Moller et al, 1998) but studies have not shown a difference between general and regional anaesthesia (Williams et al, 1995).

Regional anaesthesia may be difficult to perform if the patient is agitated, but small doses of sedation, with appropriate monitoring, can be titrated to effect.

Poor nutritional status contributes to breakdown of pressure areas and wounds; perioperatively pressure areas should be assessed regularly. If prolonged fasting is anticipated, enteral nutrition should be considered.

The coincidence of cardiac and respiratory disease in these patients necessitates a low threshold for using invasive monitoring. Commencement of vasoactive medications following fluid resuscitation needs to be considered early in the operative course.

Management of postoperative pain in these patients is similar in many ways to paediatric patients. Assessment of pain using visual analogue scales is often not feasible because of poor visual acuity and diminished capacity to understand. Use of nerve blocks is encouraged, along with regular doses of simple analgesics. If opiates are required, the patient should be nursed in a quiet well-lit environment, avoiding stimulation. Analgesia should be prescribed regularly rather than as needed, as patients may not be able to communicate their pain.

The elderly patient with dementia requires postoperative anaesthetic review: pain, confusion, nausea and poor nutritional intake can arise as problems postoperatively. Many errors are made in fluid management in this population (Association of Anaesthetists of Great Britain and Ireland, 1999).

High dependency or intensive care is warranted in the presence of serious systemic pathology. The outcome of intensive care in the elderly patient depends on prior health status rather than age (Montuclard et al, 2000). HM

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