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ACUTE GERIATRICS

Is delirium the medical emergency we know least about?

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An 87-year-old woman has been in your ED for an hour. Three weeks ago she fell at home and sustained a fractured humerus, before being discharged to a rehabilitation facility. She has been sent back to ED as staff are concerned she has uncontrolled pain, manifesting as distress, particularly at night, and refusal to cooperate with her rehab programme.

You become aware of her when a nursing colleague approaches and says 'You have to do something about that patient trying to climb out of bed'.

Delirium (acute brain failure) is a syndrome characterised by acute onset of disturbance in attention and orientation that fluctuates and is accompanied by cognitive deficits such as disturbance in memory, language, perception or consciousness.[1] Like other acute organ failures, it is a medical emergency. Patients with delirium have a 38% higher mortality and 200% higher rate of institutionalisation after hospitalisation.[2] The clinical presentation of delirium can be classified broadly into three subtypes – hypoactive, hyperactive and mixed – on the basis of psychomotor behaviour. In hypoactive delirium, there is global cognitive slowing that manifests as a quiet, withdrawn and confused patient.[3]

About 10% of Australians aged over 70 years have delirium at the time of presentation to ED, and a further 8% develop delirium during a hospital admission.[4]

Delirium has been identified by the Australian Commission on Safety and Quality in Healthcare as a high priority area for quality improvement.[5] The challenge for ED staff is to respond to this priority, despite the competition of other pressing demands.

Diagnosis

Delirium detection is clinical, not difficult, yet poorly executed in almost all EDs. The reasons for this are myriad, but in our view include gaps in ACEM training, lack of recognition of its importance and the perception that this is not core ED business. When a colleague tells you he or she can always spot a patient with delirium, do not believe them. Emergency physicians correctly diagnose delirium in only one quarter of cases.[6] What they usually mean is that they have seen agitated patients climbing out of bed and know they have to 'do something' about them. In fact, the hypoactive or mixed forms of delirium are collectively at least three times as common as the hyperactive form. But you are almost never asked to 'do something' about an older person lying quietly in bed.

Table 1 represents one method to diagnose delirium in ED, but there are many more.[7] As with most things in life, when there are numerous ways of doing something, no one method is clearly superior; otherwise, we would all be doing it. All measures to detect delirium represent a compromise between the sensitivity and specificity of the instrument, the amount of training required to use it, the time it takes to perform in a time-poor environment and its validity in the ED population. The authors cannot even agree among ourselves as to which instrument is best to use, but we all agree that any ED should have one instrument that is consistently and regularly taught to all relevant staff. Consistency with tools used by inpatient colleagues (if they are using any) is a good tactic where practical.

Prevention and non-pharmacological management

Strategies to manage the delirious patient, and prevent delirium developing, can be thought of together. We recommend attention to the structural, policy and staffing environment of the ED, although this is largely opinion based as few approaches have been experimentally tested.

From a structural perspective, designing a new ED will allow for incorporation of specific gerontic elements that improve exposure to natural light, enhance independent orientation, navigation and mobility of elders through the environment and reduce noise.[8]

But assuming you would not be building a new ED any time soon, some simple measures in existing EDs can be optimised:

1. Improve orientation
   a. In cubicles install high visibility clocks, calendars and patient orientation charts that state clearly

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TABLE 1. *The Confusion Assessment Method (adapted from Inouye et al.[22])*

Feature 1: Acute onset and fluctuating course	Is there evidence of an acute change in the patient's cognition from baseline? Does it fluctuate over the day?
Feature 2: Inattention	Does the patient have difficulty focusing attention? Do they have difficulty keeping track of what is being said?
Feature 3: Disorganised thinking	Is the patient's thinking incoherent, rambling, irrelevant, unclear or illogical, switching from subject to subject?
Feature 4: Altered level of consciousness	Is the patient's level of consciousness altered, that is, drowsy, lethargic or stupor; hyper alert

A diagnosis of delirium requires the presence of both Feature 1 and 2 with at least one of Feature 3 or 4.

where the patient is and what they are awaiting.[9–11]

b. Fit clear signage using colours and fonts that are easily recognisable by older persons to facilitate independent navigation through the ED.

2. Encourage safe mobilisation and navigation within ED.

a. Keep corridors free of clutter.

b. Use colour contrast (e.g. in wall/door painting) to ensure that features such as toilets are easily distinguished and recognised.

Policy and staffing changes can contribute to delirium prevention, and their implementation can be seen as 'doing something about that patient' without progressing to pharmacological restraint.

1. Patient flow

a. Preferentially triage older persons to, where available, areas where daylight is visible or single rooms to aid rest and avoid the extremes of sensory stimulation commonly found in the ED.[9]

b. Minimise room and staffing changes for those at risk of, or with, delirium.[10]

2. Staffing approach

a. Adopt a TADA approach (tolerate, anticipate, do not agitate).[12]

i. Tolerate behaviours where these are not a threat to patient or staff safety.

ii. Anticipate behaviour where clinically appropriate by not tethering older persons to beds by intravenous lines, oxygen, monitoring and bladder catheters.[10–12]

iii. Do not agitate, for example, avoid unnecessary medical procedures.

b. Transition from the custodial (and even punitive) model of staff–patient interaction, where staff physically restrain or simply supervise at risk elders, to a therapeutic model,[10,12–15] train staff to actively encourage mobility and patient participation in their care and engage elders in cognitively meaningful activities.

c. Actively involve family and caregivers to encourage patient sense of security and reinforce orientation cues.[10]

3. Clinical approach

a. Prevent dehydration by frequent offering of food and fluids (where appropriate).[9]

b. Assess and treat pain using cognition-appropriate pain assessment tools.[16]

c. Promote a structured approach to assessment for and management of underlying causes for delirium.

d. Avoid drugs implicated in delirium.

e. Regularly toilet.

f. Ensure access to patient's hearing and visual aids.[9,10]

Finally, given the delirium risk inherent to the ED and hospital environment, ED physicians should champion emergency avoidance and hospital substitutive care programmes that provide frail, older persons the option to have their acute healthcare needs addressed in the community where possible.[17,18]

Pharmacological management

Pharmacological management of the agitated patient should only be utilised when non-pharmacological methods have failed and the attendant risk is outweighed by the potential patient safety benefits.

The aim of medication is not to obtund the patient but to treat patient (not staff) distress, enhance safety and to create a setting wherein the underlying cause of delirium can be sought and treated. Common sedation protocols used for acutely disturbed younger adults in ED should not be used in this population. We strongly recommend the 'start low, go slow' approach: start medications at a low dose and with sufficiently long intervals between doses based on the pharmacokinetics and pharmacodynamics of the drug. Do not expect immediate effects or respond to their absence by frequent escalating dosing. Particular attention should be given when choosing medications when treating patients with possible Parkinsons or Lewy Body Dementia. Haloperidol should be avoided in this group of patients. Having a departmental approach formulated with your inpatient colleagues, such as geriatricians or psychogeriatricians, who are usually responsible for managing the complications of over sedation, is often useful. If family or carers are comfortable, they can be used as allies in offering drug therapy to frightened patients.

The main drugs used for managing acutely agitated delirious older patients are haloperidol, risperidone, olanzapine and quetiapine.

Haloperidol has been extensively used in this population and is effective but comes with a significant adverse effect profile including extrapyramidal symptoms, which can be life-threatening.[19]

Recently, risperidone has emerged as an equivalent alternative with a better adverse effect profile.[20] There is no intravenous form available in Australasia, but it comes in sublingual, quicklets and tablet presentations.

Either haloperidol or risperidone should be started at a dose of 0.25 mg for frail elders or in patients that are naïve to the drug (or 0.5 mg otherwise). Avoid re-dosing within 4 h. Risperidone quicklets can be offered dissolved in juice or sublingually.

Olanzapine[21] has a comparatively good safety profile and is being increasingly used in delirium. It comes

in i.m., i.v., oral or sublingual form. Olazapine may be commenced at 1.25 mg orally or i.m. in frail elders (or 2.5 mg otherwise), with no re-dosing within 6 h.

Quetiapine should at present be considered a second line agent unless haloperidol, risperidone or olanzapine are contraindicated. However, for patients with Parkinsons or Lewy Body Dementia, quetiapine has been pitched as an alternative. Quetiapine is well absorbed and has been shown to be as effective as haloperidol in appropriate circumstances. The commencing dose is 25 mg.

The use of benzodiazepines outside the setting of alcohol or benzodiazepine withdrawal is controversial and best avoided.

Prior to initiating any of the above pharmacotherapies ensure that contributors to delirium such as pain have been adequately addressed and that non-pharmacologic approaches have been exhausted.

Summary

Delirium is a medical emergency common in older patients presenting to ED, with a high risk of morbidity and mortality. ED physicians fail to identify delirium in three out of four patients. The hypoactive subtype is more common than the hyperactive subtype, which most people associate with delirium. As well as identifying and managing delirium present on arrival, the ED needs processes in place to prevent iatrogenic delirium. To make this cultural change requires clear commitment and education of the whole multidisciplinary ED team. Non-pharmacological interventions such as attention to toileting, feeding, analgesia and re-orientation are important for both prevention and management of distress. When using pharmacological agents, remember 'start low, go slow'. Unless contraindicated, risperidone is a reasonable first choice where drug management is required.

Competing interests

None declared.

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