Chaos and confusion all around

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Emergencies can spring up at any time and in many incarnations. Are you adequately equipped to deal with them? Each month we present a case study in emergency medicine based on real cases and events. Would you have been able to help this patient?

It is another frantic evening shift in the emergency department, which makes you think your real life as a GP has certain positives after all.

It is 10 p.m. The place is in chaos, and you are getting tired. You click off the next name from the increasing list of sick patients waiting to be seen. You pick up the paperwork, which includes the ambo's report, the referring GP's letter, and the triage sheet. As an experienced GP, you know that although the patient has been waiting for hours longer than the recommended triage time, a moment spent assimilating the data can really help you focus on what needs to be done and ends up being much quicker in the long run.

The referral letter

You read the patient's address and that of his doctor – both are several miles on the far side of a neighbouring hospital that periodically diverts their ambulance cases to you. Your blood pressure rises as you read the GP's detailed letter – he has repeatedly tried to get the patient admitted to that hospital where the patient had a pacemaker inserted six days ago (the stitches are still in).

You read that, today, the patient has been confused and unable to stand. He has insulin-requiring diabetes and has some degree of congestive cardiac failure; a list of medications is provided. Currently, he has a cough with green sputum. Previous CTs of the brain conducted at the other hospital are reported to have shown cerebral atrophy and small vessel disease. Physical examination earlier today has revealed some decreased air entry. The GP's letter raises the possibility of a cerebrovascular accident.

The initial assessment

The nurses' observations of the patient are unremarkable – he is afebrile, with a fingerprick blood sugar of 6.9 mmol/L, a blood pressure of 140/80 mmHg, a regular pulse of 80 beats per minute, a respiratory rate of 18 breaths per minute and an oxygen saturation of 98% on room air. The Glasgow Coma Score is normal (15).

It takes you a few moments to actually locate the patient – due to cubicle and bed shortages, the patients are being shuffled constantly.

You find and introduce yourself to a pleasant 88-year-old man who is not in any apparent distress. As the patient is quite confused, your apology about the wait and chaos is not really understood. He does not know where he is or what is happening – he just wants to go home.

You realise a major workup is called for, much of which is going to be futile and expensive. Without the 'baseline' abnormal CT for comparison, another CT of the brain will be very difficult, if not impossible, to interpret. All the other health issues have already been well investigated and documented at

Nutrition screening tool*

If the score is 3 or more, the patient should be referred to a dietitian.

Question	Answer	Score
Question A. Has the patient lost weight recently without trying?	Yes (go to Question B) No (go to Question C) Unsure (go to Question C)	0 0 2
Question B. How much weight has the patient lost?	0.5–5.0 kg >5.0–10.0 kg >10.0–15.0 kg >15.0 kg Unsure	1 2 3 4 2
Question C. Has the patient been eating poorly because of decreased appetite?	No Yes	1 2

* Courtesy of Dr Russell Clark, Sydney, NSW.

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The Mini Mental State Examination*

The Mini Mental State Examination is commonly used to assess the severity of cognitive impairment. The test is scored out of 30. A score of 18 to 26 suggests mild dementia; a score of 10 to 17 suggests moderate dementia; and a score of less than 10 suggests severe dementia. However, the score is a guide only and requires clinical judgement. Scores are influenced by factors such as language, culture, educational background, and visual or hearing impairment.

Questions

Orientation (maximum of 10 points)

1 What is the… Year? (1 point)
Season? (1)
Date? (1)
Day? (1)
Month? (1)

2. Where are we? State? (1)
Suburb? (1)
City? (1)
Hospital? (1)
Floor? (1)

Registration (maximum of 3 points)

3. Name three objects, taking one second to say each. Then ask the patient all three after you have said them. Give one point for each initial correct answer. Repeat the answers until the patient learns all three.

Attention (maximum of 5 points)

4. Serial sevens: subtract 7 from 100 and then subtract 7 again. Give one point for each correct answer. Stop after five answers. Alternatively: spell 'WORLD' backwards. Give one point for each correct letter.

Recall (maximum of 3 points)

5. Ask for the names of the three objects learned in question 3. Give one point for each correct answer.

Language (maximum of 9 points)

6. Point to a pencil and a watch. Have the patient name them as you point. (2 points)
7. Have the patient repeat 'No ifs, ands or buts'. (1)
8. Ask the patient to follow a three-stage command: 'Take this paper in your right hand. Fold the paper in half. Put the paper on the floor'. (3)
9. Have the patient read and obey the following: 'CLOSE YOUR EYES'. (1)
10. Have the patient write a sentence of his own or her own choice. The sentence should contain a subject and an object, and should make sense. Ignore spelling errors when scoring. (1)
11. Have the patient copy a design of two intersecting pentagons. Give one point if all sides and angles are preserved and if the intersecting sides form a quadrangle. (1)

* Adapted from references 1 and 2.

the neighbouring hospital. A quick examination confirms there is no need for acute resuscitation and that the patient would be fit to be taken back there and, forever the optimist, you ring the medical officer in charge of the neighbouring hospital's emergency department. He tells you that they were 'open' for 20 minutes before they blocked ambulances again an hour ago! Although sympathetic and agreeing the situation is a shambles, he has no beds in the emergency department or the hospital.

Resigned, you attack the problem at hand. You manage to get the patient's home phone number and his wife's name. You ring her up, thinking you will get a good picture of the patient but your luck doesn't improve. The 85-year-old wife says that she would love to help but her son knows everything… 'Is he not there with dad?' You thank her and go to find the 45-year-old son who has been sitting patiently in the waiting room for hours. You feel like a fool, even though the overworked triage staff should have noted – and the patient could not tell you – that his son was there.

The son could not be more pleasant, helpful and understanding, and the history and social situation become clear. The presentation is basically one of acute confusion on a background of deteriorating and fluctuating health problems as well as early dementia in a cranky, retired truck driver.

The admission

You do a complete physical and lab workup, and admit the patient under the geriatricians' care.

Apart from the confusion, there are no clear neurological signs. Basic blood tests are normal; the white cell count is 6.6 x 10^9/L. Cardiac enzymes are normal, and the chest x-ray shows no failure or pneumonia. You brief the evening medical registrar, who has to review the patient, and you notify the admitting physician.

Falls assessment tool*

If the score is 3 or more, the 9-step protocol outlined below this tool should be implemented for inpatients.

Factor		Score
Mobility	Ambulates independently Uses assistive devices Needs assistance to ambulate Unable to ambulate or transfer	0 1 1 1
Elimination	Independent with elimination History of nocturia/incontinence Requires assistance with elimination	0 1 1
Medications	No high risk medications High risk medication/s (antihypertensives, aperients, diuretics, anticonvulsants, antiparkinsonians, benzodiazepines, psychotropics)	0 1
Sensory status	Nil sensory deficits Visual, audio, sensory deficit	0 1
Mental status	Alert and oriented Periodic/*nocte* confusion History of confusion	0 1 1
Age	18 to 75 years Over 75 years of age	0 1

Protocol for patients who score 3 or more

1=high risk fall notice above bed; 2=bed lowered, bed brakes on, bed rails elevated; 3=locate close to toilet and/or nurses' station; 4=nurse call button within reach; 5=appropriate footwear; 6=toilet regimen fourth hourly and prior to settling; 7=area clear of hazards; 8=nightlight on where available; 9=side table/belongings within reach.

* Courtesy of Dr Russell Clark, Sydney, NSW.

Your probable diagnosis is a small cerebral vascular event. You suggest a head CT tomorrow, to be conducted at the discretion of the team.

A couple of days later you go and check up on the patient's progress before you start your next shift. From the notes you find that the medical registrar and, the next day, the team, agreed fully with your assessment. You are impressed by the team's complete, formal assessment of the patient's mental state revealing mild-to-moderate dementia (a score of 17 on the Mini Mental State Examination; see the box on page 53). A nutrition screening tool and falls assessment tool are also used (see the boxes on page 52 and this page, respectively) in addition to assessing activities of daily living, including transfers and continence, and skin integrity.

Over the following days, the patient is mobilised and his daily living skills improve.

Table. Causes of delirium

- Neurological (e.g. cerebrovascular accident)
- Metabolic (e.g. acidosis)
- Infective (e.g. septicaemia)
- Pulmonary (e.g. hypoxia)
- Endocrine (e.g. hypoglycaemia, hyperglycaemia)
- Cardiovascular (e.g. low output states)
- Gastrointestinal (e.g. hepatitis, diarrhoea)
- Toxins (e.g. drugs, overdose)
- Iatrogenic (e.g. polypharmacy)

The discharge

Soon, the patient is discharged home with energetic community services and nursing support. The family is fully aware that with any further deterioration, alternatives to home care may need to be activated. For now, they are happy, as is the patient, for him to go home.

It turns out that no specific cause of the patient's acute delirium can be found (see Table). No focus of infection is identified. The patient's confusion seemed to resolve with the empirical antibiotics given for a possible chest infection (no signs but for green phlegm, with a clear chest on auscultation and on x-ray). A CT was not done.

During his stay, the patient had another but only brief episode of confusion and tiredness. This also resolved completely.

The best 'fit' is one of small cerebrovascular accidents, which will undoubtedly lead to a multi-infarct dementia. You have several such patients in your practice – it is all part of a very unsatisfying picture. MT

Acknowledgement

The author would like to thank Dr Russell Clark, St Vincent's Hospital, Sydney, NSW, for permission to use the nutrition screening and falls assessment tools.

A list of references is available on request to the editorial office.

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MEDICINE TODAY January 2001 pp. 52-54

References

1. Folstein MF, Folstein SE, McHugh PR. 'Mini-mental state'. A practical method for grading the cognitive status of patients for the clinician. J Psychiatr Res 1975; 12: 189-198.
2. Hecker J. Alzheimer's disease: practical advice for management in general practice. Medicine Today 2000; 1(3): 20-34.