CASE FOUR

Short case number: 3_15_4
Category: Mental Health and Human Behaviour
Discipline: Psychiatry
Setting: Emergency Department
Topic: Acute Confusion_Delirium [SDL]

Case
Lionel Thorpe, 79 years old was brought in by ambulance from the nearby nursing home. He is confused and agitated and has been lashing out at the nursing staff who are trying to change the dressing on his leg ulcer. He claims that they are trying to poison him. On arrival he is alert and shouting abuse at the ambulance officers. Once he is reassured that he is no longer at the nursing home, he calms down enough for you to talk to him. However he is confused and disoriented and unable to provide any history details.

1. What are the key features of your history and examination of Lionel? Consider the importance of obtaining further medical history about Lionel.

You find Lionel is disoriented and inattentive. He engages in a discussion with you but it is difficult to follow much of what he is saying. After you briefly leave his bed side to order some tests and then return, he accuses you of being "one of them" and trying to murder him. When you contact the nursing home staff, they report Lionel has a diagnosis of vascular dementia and has been irritable with staff and other patients since he arrived 18 months ago, but he was much more confused over the last 3 days.

2. What features in Lionel's history are consistent with a diagnosis of delirium? What differential diagnoses would you be considering?

3. Summarise possible causes of delirium you would consider in Lionel's case, and outline investigations that you would use to determine the underlying cause.

Lionel is admitted to the geriatrics ward. He continues to fluctuate in his presentation and to be resistant to care. He is awake much of the night and is disturbing the other patients in his 4 bed room, often shouting out that they are on a ship. The nurses are finding Lionel challenging and ask you to prescribe something to "calm him down".

4. The nursing staff are finding Lionel challenging to manage and ask if you can prescribe something to calm him down. Outline and justify your management of Lionel in term of using chemical and/or physical restraints.

Suggested reading:

1. Management of Mental Disorders (5th edition) World Health Organisation, Collaborating Centre for Evidence in Mental Health Policy. Sydney 2013.
2. O'Connor D, Piterman L, Darval L. Common Mental Health Problems in the Elderly, Chapter 16 in Blashki G, Judd F, Piterman L. *General Practice Psychiatry*. McGraw Hill. Australia. 2007
3. Kumar P, Clark ML, editors. Kumar & Clark's Clinical Medicine. 9th edition. Edinburgh: Saunders Elsevier; 2016.

Additional Resources

1. Delirium in older people. Prof I Young and Prof S. Inouye. BMJ 2007
   http://www.bmj.com.ipacez.nd.edu.au/content/334/7598/842

ANSWERS

1. What are the key features of your history and examination of Lionel? Consider the importance of obtaining further medical history about Lionel.

History and examination, including mental status questionnaire, are vital parts of the investigation of an acutely confused patient. History may need to be taken collaboratively from the patients, family, carers, hostel staff etc.

History must include

- Onset of symptom
- New symptoms
- Medications (In particular new medications, over the counter, or polypharmacy)
- ETOH or illicit substances
- Changes in environment / circumstances
- Specific symptoms suggesting infection including cough/ SOB/ fevers/ lethargy/incontinence etc., changes in appetite, weight loss, night sweats, lumps or bumps; Signs suggesting anaemia; SOB on exertion, pallor, diet, blood loss from bowels/ bladder
- Presence of delusions/aggression
- Safety - History of falls
- History and symptoms of strokes/heart attacks etc.

Delirium is an impairment of cognitive function that is not progressive, but is reversible. The impairment of consciousness varies, often being worse at night. It may be described as a transient organic brain syndrome characterized by concurrent disorders of attention, perception, thinking, memory, psychomotor behaviour and the sleep-waking cycle.

An aide-memoire for the common causes of delirium is HIDEMAP:

- H - Hypoxia
- I - Infection
- D - Drugs
- E - Endocrine, e.g. diabetes, thyroid abnormality
- M - Metabolic, e.g. hyper/hypocalcaemia
- A - Alcohol
- P - Psychosis

A top to toe examination is required, starting with a mental state examination to determine the severity of the delirium. Delirium is characterised by: 1. Inattention (difficulty keeping track of conversation or difficulty focusing attention) 2. Disorganised thinking (disorganised thoughts and, at times, hallucinations and paranoid delusions, disorientation, rambling, speech, irrelevant replies, impaired memory, language problems, and/or behavioural changes such as under- or over-activity) 3. Altered level of consciousness ranging from drowsy to very alert (a person with delirium may sometimes be noisy and aggressive, or apathetic and sleepy) 4. Delirium also effects the coordination of movements (problems in swallowing and changes to balance and mobility).

One method, the Confusion Assessment Method, identifies delirium as the presence of the above features (1) and (2) and either (3) or (4):

2. **What features in Lionel's history are consistent with a diagnosis of delirium? What differential diagnoses would you be considering?**

   Clinical features of delirium include:
   - Impairment of consciousness - may be impaired awareness of self and the surroundings. There may be a disruption in normal wakefulness, which may be increased or reduced. The patient may have poor concentration and have a poor level of attention. The level of consciousness characteristically fluctuates and is most often impaired during the early evening or the night.
   - Disorientation, perceptual errors, hallucinosis - usually visual hallucinations.
   - Motor disturbance - overactivity in acute delirium; mild irritability in subacute delirium.
   - Emotional symptoms - panic, terror may be present because the patient misperceives their environment.
   - Delusional ideas - unformulated delusional ideas may be present. Delusional ideas are often persecutory.
   - Mood - suspicion, fear, anxiety or violence.

3. **Summarise possible causes of delirium you would consider in Lionel's case, and outline investigations that you would use to determine the underlying cause.**

   He has a vascular dementia, so progression via CVA or other vascular event (e.g. AMI, DVT and PE), moving room, sleep disturbance, new medications, infections would be first things to be ruled out.

Dementia v Delirium

	Dementia	**Delirium**
Mode of onset	Sub acute	Acute
Poor attention	Late event	Characteristic
Conscious level	Normal	May be wild fluctuations
Hallucinations	Late event	Common
Agitation/Aggression	Uncommon until late	Common
Thought form	Usually poverty of thought in late dementia	Flight of ideas
Memory	Normal until late	Poor

As above, the differential diagnosis for the more common causes of delirium include:
- H - hypoxia
- I - infection
- D - drugs (prescription and non-prescription)
- E - endocrine, e.g. diabetes, thyroid abnormality
- M - metabolic, e.g. hyper/hypocalcaemia
- A - alcohol
- P - psychosis

Other causes include cerebrovascular events and malignancies.

Emergency investigations are essential in all patients, and the rationale behind them includes:

- CXR: pneumonia, heart failure etc.
- ECG: silent MI, arrhythmias
- FBC: anaemia, WBC for infection
- U+E: hydration state, renal function, serum sodium and potassium
- Blood sugar: hypoglycaemia, diabetes
- Urinalysis: infection
- Cultures: urine as a routine, sputum if available, blood if febrile or clearly ill for no obvious reason

The following investigations are useful in many patients:

- Blood gases: hypoxia
- Blood cultures: occult infection
- Drug screen: retrospective diagnosis

Second line investigations depending on the indication, and whether a definite diagnosis has been established, include:

- B12 and Folate: to look for deficiencies, may also include assessment of all vitamin B status
- T4 and TSH: depending on physical signs and whether diagnosis is established
- ESR: vasculitis
- CT scan: subdural haematoma, tumour, etc.

4. The nursing staff are finding Lionel challenging to manage and ask if you can prescribe something to calm him down. Outline and justify your management of Lionel in term of using chemical and/or physical restraints.

Management strategy options:

Patients with severe delirium should never be left alone or unattended.

Environmental modifications - Reorientation techniques or memory cues such as a calendar, clocks, and family photos may be helpful. - The environment should be stable, quiet, and well-lighted. Support from a familiar nurse and family should be encouraged. - Family members and staff should explain proceedings at every opportunity, reinforce orientation, and reassure the patient. Sensory deficits should be corrected, if necessary, with eyeglasses and hearing aids.

Physical restraint - Physical restraints should be avoided. Delirious patients may pull out intravenous lines, climb out of bed, and may not be compliant. Perceptual problems lead to agitation, fear, combative behaviour, and wandering. Severely delirious patients benefit from constant observation (sitters), which may be cost effective for these patients and help avoid the use of physical restraints.

Medication - Delirium that risks causing injury to the patient or others should be treated with medication.

Neuroleptics (or antipsychotic drugs) are the medication of choice. Older neuroleptics, such as haloperidol, are useful but have many adverse neurological effects. Newer neuroleptics such as risperidone, olanzapine, and quetiapine relieve symptoms while minimizing adverse effects. Initial doses may need to be higher than maintenance doses. Use lower doses in patients who are elderly.
These medications should be discontinued as soon as possible. Attempt a trial of tapering off the medication once symptoms are in control.
Neuroleptics can be associated with adverse neurological effects such as extrapyramidal symptoms, neuroleptic malignant syndrome, and tardive dyskinesia, particularly in elderly patients.
Doses should be kept as low as possible to minimize adverse effects. Paradoxical and hypersensitivity reactions may occur.
Benzodiazepines are the treatment of choice for alcohol withdrawal delirium.