# Recognising delirium as a sign of deterioration and underlying illness

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# What is delirium?

- Accounts for about 10% of all medical admissions
- 20-30% prevalence on medical wards
- 15-53% of patients post operatively

3 Main types of delirium:

- Hyperactive – restless, agitated, hyperactive
- Hypoactive form – withdrawn, sleepy, not interacting
- Mixed

*Hypoactive and mixed may be more difficult to recognise*

# Why is delirium so important?

**Delirium is a Medical Emergency**

- **35-40%** in-hospital mortality rate in >65 at 1 year
- Increased rate of hospital acquired infection
- Increased length of stay – pressure sores, falls
- Higher risk of complications medical and surgical settings

- 1/3 of cases are preventable
- Detection and documentation is poor
- We need to identify, assess and implement initial treatment in patients with high risk

# Peter, 88 yo male

- Seen in ED after a fall from his bed
- Found on the floor by care home staff
- Disorientated in time, place and person
- Unable to recall his fall or the events prior to, during or after the fall
- Preoccupied by his medication
- Less well over the preceding 3 days with hallucinations and delirium
- He had reported strangers were in his bedroom

- Past medical history
  - Parkinson's disease
  - Hypertension
  - Postural hypotension
  - Frequent falls
  - Mild cognitive impairment
  - Hearing impairment

# History and examination

- Chronic cough – needs to be upright
- No fevers
- Long standing incontinence of urine
- New faecal incontinence with diarrhoea
- Has not taken laxatives for the last 2 weeks
- No real change in his appetite
- Increasingly bedbound

- T= 36.6 C
- BP 165/80
- HR 75
- Chest clear
- Thin and sarcopenic
- Abdomen soft and non tender
- No palpable bladder
- No focal neurology but unable to track a finger
- No resting tremor / rigidity

# 4AT – rapid clinical test for delirium

| | | CIRCLE |
|---|---|---|
| **[1] ALERTNESS** *This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.* | | |
| | Normal (fully alert, but not agitated, throughout assessment) | 0 |
| | Mild sleepiness for <10 seconds after waking, then normal | 0 |
| | Clearly abnormal | 4 |
| **[2] AMT4** *Age, date of birth, place (name of the hospital or building), current year.* | | |
| | No mistakes | 0 |
| | 1 mistake | 1 |
| | 2 or more mistakes/untestable | 2 |
| **[3] ATTENTION** *Ask the patient: "Please tell me the months of the year in backwards order, starting at December." To assist initial understanding one prompt of "what is the month before December?" is permitted.* | | |
| Months of the year backwards | Achieves 7 months or more correctly | 0 |
| | Starts but scores <7 months / refuses to start | 1 |
| | Untestable (cannot start because unwell, drowsy, inattentive) | 2 |
| **[4] ACUTE CHANGE OR FLUCTUATING COURSE** *Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs* | | |
| | No | 0 |
| | Yes | 4 |

**4 or above:** possible delirium +/- cognitive impairment
**1-3:** possible cognitive impairment
**0:** delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

**4AT SCORE** ☐

# 4AT for Peter

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**4AT SCORE** 12

# Investigations

- Hb 123 WCC 5.8 Plts 248
- Na 140 K 2.5 Ur 5.7  Creat 67
- CRP 24
- CXR Clear lung fields. Nil acute
- ECG SR HR 78 Nil acute
- 4AT = 12

# Management of delirium (1)

- Once delirium has been identified and diagnosed, a multifactorial assessment and management plan should be undertaken addressing the following features:
- *Treat infection if it's there,* ***but only if it's there***
- *Assess hydration status*
- *Consider nutritional status*
- *Treat constipation*

# Management of delirium (2)

- *Treat pain*
- *Identify, and treat urinary retention*
- *Encourage mobility*
- Patients should be encouraged to mobilise as much as possible
- *Review medications*
  - Consider whether a medication has been stopped or started recently. Typical offending medications include:
    - Tricyclic antidepressants e.g. amitryptilline, antimuscarinics e.g. oxybutynin, antihistamines e.g. cetirizine, loratadine, hydroxyzine, H2 receptor antagonists e.g. ranitidine, opioids e.g. codeine, benzodiazepines e.g. lorazepam and gabapentin.

# Management of delirium (3)

- *Drug/alcohol withdrawal*. Don't forget to consider this as a potential cause of delirium
- *Assess sleep disturbance*. As much as possible, patients should be encouraged to maintain a normal sleep/wake cycle
- *Educate and re-orientate*. Caregivers should be educated as to the diagnosis of delirium and how they can help. In particular, re-orientation strategies should be employed

# Treatment of delirium

- The mainstay of treatment is to treat the underlying causes.
- Follow local antibiotic guidelines where there is evidence of sepsis
- Review medication
- Review and potentially stop any drugs which may be contributing
- Review and reduce analgesics if possible
- Consider pain as a cause of delirium
- Correct biochemical derangements (e.g. hyponatraemia, hypokalaemia and hypercalcaemia)
- Treat dehydration. Consider subcutaneous fluids where appropriate.

# General measures in patient care and environment – non-pharmacological (1)

- Approach patient calmly and gently from the front
- Non-threatening posture from staff
- Clear unambiguous communication
- Lighting levels appropriate for time of day
  - Quiet relaxing night environment
  - Night light in room
- Regular and repeated cues to improve personal orientation
  - Examples of orientating cues include clocks, calendars, signs
  - Hearing aids and spectacles should be available and in good working order.

# General measures in patient care and environment – non-pharmacological (2)

- Continuity of care from nursing staff
  - Minimal changes of staff and ward
- Encouragement of mobility and engagement in activities and with other people
- Elimination of unexpected and irritating noise (e.g. pump alarms, television, radio)
- Encouragement of visits from family and friends who may be able to help calm the patient
  - Explain the cause of the confusion to relatives
  - Encourage family to bring in familiar objects and pictures from home and participate in rehabilitation

# General measures in patient care and environment – non-pharmacological (3)

- Good diet, fluid intake and mobility to prevent constipation
- Good sleep pattern (use milky drinks at bedtime, exercise during the day)
- Regular review of medication
- Optimise oxygen saturation when necessary
- Look for and treat infections promptly
- Avoid catheterisation if possible

# Management of wandering and agitation

- Intensive 1:1 support and observation may be required
- Adopt least restrictive approach e.g. allow patient to wander around ward accompanied by a member of staff as opposed to confining in room
- Distraction techniques
- Divert from content of incoherent and rambling speech and change topic
- Focus on understanding and empathy of patient's emotions

# Pharmacological treatment

- Medication should be used only as a last resort - “Start low and go slow”
- Review medication regularly – at least 24 hourly intervals
- Start with low dose and titrate slowly according to tolerance and efficacy
- The lowest possible dose should be used and regularly reviewed to prevent oversedation
- Sedatives should be reduced or tailed-off as quickly as possible If medication is required, antipsychotics would be first choice, except in alcohol withdrawal, where there are signs of parkinsonism and Lewy Body dementia.

# Understand the link between coronavirus and delirium

- The risk of psychiatric disorders in patients with COVID-19 is greater than the risk in patients with other respiratory illnesses
- In the six months after COVID-19, several psychiatric disorders occurred in more patients with COVID-19 than influenza, including:
  - Anxiety disorders – 17.4 % of patients with COVID-19
  - Unipolar depression or bipolar disorder – 13.7 %
  - Substance use disorder – 6.6%
  - Insomnia – 5.4 %
  - Psychotic disorder – 1.4 %
  - Dementia – 0.7%
  - Delirium – 0.1%
- Multiple studies suggest that COVID-19 may indirectly affect central nervous system function through the associated inflammatory immune response

# Identify the high risk of falls with delirium

- Falls in older persons are due to extrinsic stresses working in conjunction with age-related intrinsic factors that increase vulnerability to falls
- Multiple risk factors have been identified, including past history of a fall, lower-extremity weakness, age, female sex, cognitive impairment, balance problems, psychotropic drug use, arthritis, history of stroke, orthostatic hypotension, dizziness, and anaemia
- There is no value in classifying falls as being “mechanical” because it obscures the true underlying contributors
- Think about falls as being “multifactorial”

# Conclusion

- Delirium is a serious issue
- Prevention is best
- Treat the underlying cause(s)
- Non-pharmacological interventions are better than pharmacological treatments and sedation
- Education is vital
- Recognise changes in behaviour and do not be afraid to ask ‘why?’

# Questions