Delirium Assessment and Management in Aged Care

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What is Delirium?

- Complex syndrome of symptoms often with multiple causes
- Organic disorder that alters/impaired function of whole brain
- Frequent & serious complication of advanced illness
  - 28-42% of pt’s admitted to a palliative care unit
  - up to 90% of pt’s in terminal phase
- Frequently misdiagnosed or unrecognised associated with increased morbidity & mortality

Definition of Delirium

A. Disturbance of consciousness
   - Decreased clarity of awareness of environment
   - Decreased ability to focus, sustain or shift attention

B. Change in cognition
   - memory deficit
   - disorientation
   - language disturbance
   - perceptual disturbance (not related to dementia)

C. Short onset (hours to days); fluctuating course
   - lucid intervals may occur

Delirium

- Common & under-recognised problem in general medical population (& up to 85% of terminally-ill patients)
- Symptoms usually fluctuate in severity
  - often worse at night
- Impairment of attention span, orientation & memory

3 types
- Hypoactive (most common in pall care pt’s),
- Hyperactive
- Mixed

- Early recognition, investigation & management are vital in reducing duration & severity; reducing pt & carer suffering
- 50% of cases may be reversible

Case Study

78 year old woman in low level care
History of AF, heart failure
Developed a chest infection and was commenced on oral antibiotics for 7 days by her GP
Over a two week period documentation demonstrated a change in behaviour
   - More demanding
   - Buzzing constantly
   - Repeatedly asking for daughter
   - “Wasting” staff’s time
   - Refusing to take any medications
Referral to consult team by Residential in Reach Coordinator

Findings
- Septic
- Rapid AF
- Semi conscious

Diagnosis
- Acute Delirium secondary to sepsis

GP notified

Outcomes
- Family meeting held to discuss aims of care
  - Treatment options discussed
- Resident died eight hours later
The dilemma

Reducing Unnecessary Hospitalizations of Nursing Home Residents
Joseph G. Dubelier, M.D., and Robert A. Bresnan, M.D.

Why is it Important to Diagnose and Treat Delirium?
• Causes significant deterioration of QOL for both pt & caregivers
• Major reason for admission to PCU
• Interferes with good clinical assessment of other symptoms
• Impairs pt involvment in decision making
• Frightening & distressing to pt’s, family (& staff)
  - recovered patient’s report feeling very distressed

Identifying Patients at Risk
• Previous episode(s) of delirium
• Elderly, frail esp with visual &/or hearing impairment
• Multiple medications
• Sleep deprived
• Cancer
  - ?cytokines, other inflammatory mediators may alter brain function
  - Difficult to manage pain (e.g. neuropathic)
• Rapid escalation of opioid dose

Types of Delirium
• Hypoactive
  - quiet, drowsy, poor concentration, staring, sparse speech, easily undiagnosed or misdiagnosed as depression, ‘withdrawal’, fatigue, ‘not causing any trouble’
• Hyperactive
  - irritable, over-vigilant, restless, sleepless, agitated, loud or rapid speech, suspicious, uncooperative, Hallucinations/delusions, violence
• Mixed
  - fluctuations between hypo- & hyperactive
    (NB approx 50% of hypoactive types deteriorate into hyperactive typed unless treated &/or reversible cause modified)

Why is it Important to Diagnose and Treat Delirium?
• Denies pt valuable time for planning, talking with family, friends
• Increased incidence of urinary incontinence; self-removal of catheters, IV’s, syringe drivers etc; prolonged hospitalisation; falls (hyperactive type); pressure ulcers (hypoactive type)
• Increased risk of injury to staff, family, & pt
• Late recognition can lead to high dose chemical, & occasionally, physical restraint

Identifying Patients at Risk
• Previous drug/alcohol abuse
• Brain injury, disease or failure
  - significant head injury, tumour, CVA’s, dementia, Parkinson’s disease, MS, MND etc
• Organ impairment/failure
  - renal, hepatic, cardiac, lung
• Recurrent infection
  - UTIs, chest, cellulitis, gangrene
Identifying Patients at Risk

- At risk of hypercalcaemia
  - Certain malignancies (Breast, Lung, Renal Cell)
  
  Triggering factors act on an already weakened organ
  (e.g. the Brain)

Identifying those at risk may allow advanced planning with education of patient and caregivers leading to early recognition, prompt treatment, contingency plan (e.g. appropriate drugs in home)

Differential Diagnosis

- Depression
- Anxiety
- Mania
- Psychosis
- Dementia
- Intoxication

Usually differentiated by:
- relatively abrupt onset
- disturbed consciousness
- fluctuating course

Causes of Delirium - Potentially Modifiable/Reversible

- constipation
- urinary retention
- severe pain
- infection (e.g. UTI, chest)
- metabolic (e.g. hypercalcaemia, dehydration, hypo/hyperglycaemia)
- hypoxia
- post-operative
- drug side effects or toxicity (e.g. steroids, benzodiazepines, digoxin, anticholinergics, accumulation of opioid metabolites, serotonin excess)
- withdrawal states (e.g. opioid, alcohol, benzodiazepines, nicotine, antidepressants)

Causes of Delirium - Likely to be Irreversible

- Advanced organ failure
  (brain, liver, renal, cardiac, lung)
- Advanced metabolic failure
  (refractory hypercalcaemia, hyponatraemia)
- Cerebral malignancy
  (primary or metastatic)
- Advanced sepsis
  (inoperable gangrene, peritonitis, severe pneumonia)
- Encephalopathy
  (hepatic, hypoxic)

Should We Investigate & Attempt to Reverse Causes?

CONSIDER:
- What are the goals of care & stage of illness?
- How realistic or likely is it to achieve some reversibility?
- What is the likelihood of improving QOL
- Will investigation/specific treatment be overly burdensome to this patient?
- What is known about the pt's wishes/advance directives?

Investigations

Consider place of care (RACF, community, etc)

- FBE, U&E's, creatinine, Ca++, glucose, LFT's
- Urinalysis/MSU/CSU
- ?sputum/blood cultures
- O2 sats
- blood levels e.g. digoxin, lithium, anti-epileptic drugs
- CXR
- CT/MRI brain
Overview of Screening Tools

For Delirium

- Confusion Assessment Method (CAM) tool
- Memorial Delirium Assessment Scale (MDAS)
- Confusion Rating Scale (CRS)
- Nursing Delirium Screening Scale (Nu-DESC)

Overview of Screening Tools

Tool | Advantages | Disadvantages
---|---|---
**CAM**
(4 items short form)
(9 items long form) | Easy to administer
Excellent diagnostic validity | Does not reliably measure severity

**CRS**
(4 item scale) | Simple & quick to administer | Does not recognise hypoactive delirium

**MDAS**
(10 items) | Developed to measure severity of delirium | Not intended for diagnosis
Takes ~ 10 mins to administer

Overview of Screening Tools

Tool | Advantages | Disadvantages
---|---|---
**MMSE**
(30 item test) | Quantifies level of cognition
Can be administered by virtually anyone | Must speak English
At least Grade 8 education level
Does not distinguish between acute & chronic impairment
Could miss pt's with little cognitive impairment but major behavioural disturbances
Takes ~ 8-10 mins
(“LONGER IN PT'S WITH COGNITIVE IMPAIRMENT”)

Overview of Screening Tools

Tool | Advantages | Disadvantages
---|---|---
**Nu-DESC**
(5 items) | Based on CRS
Adds 5th item about psychomotor retardation (so can detect hypoactive delirium)
Takes 1-2 mins to administer
Allows for continuous symptom assessment
High screening/diagnostic validity when tested against well-established tools (CAM, DSM-IV & MDAS) | Uncertainty regarding its suitability for use in populations of patients where dementia is frequent

Overview of Screening Tools

Early Recognition – CAM Tool

Confusion Assessment Method


1. acute onset, fluctuating course
2. impaired attention/concentration

AND EITHER

3. confusion/disorganised thinking
4. altered level of consciousness

To diagnose delirium must have 1. & 2. and either 3. or 4.

Overview of Screening Tools

Treatment of Delirium

- Start treatment of Symptoms of delirium before & while searching for its cause(s)
- Treat underlying cause(s)- if appropriate
- If the patient is not in terminal phase, and reversibility is likely, then goal of treatment is to restore the pt to as normal mental functioning as possible i.e. to recover communication ability
- If the patient is in the terminal phase then sedation (titrating dose of sedative drug against effect) is usually the best way to control Sx’s
Management – Non pharmacological

Environmental strategies
- Night light, familiar carers present, familiar objects, visible clock/calendar, quiet room, calm & reassuring approach by staff/family, clear & simple communication, verbal reminders of time & place
- Decrease unnecessary stimulation (e.g. minimise visitors, loud speech, avoid noisy TV esp the news!!)
- Avoid sudden/startling actions (e.g. suddenly waking pt in poorly lit room)

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Management – Non pharmacological

Explanation (especially to carers)
- The pt is not causing/choosing this behaviour
- This is a type of ‘brain failure’ – not necessarily a sign of impending death or that pt is ‘losing their mind’
- Discuss possible causes

Discuss possible causes

Management – Non pharmacological

Suggestions for responding to unusual behaviour
- Do not dismiss, collude, react strongly, or make fun of pt
- May be helpful to gently & briefly acknowledge:
  - what the pt is likely to be experiencing
  - any accompanying emotion or distress observed in the pt
- Often reassuring to give brief reorientating information e.g:
  - identify yourself (every time!)
  - what is happening
  - why you are here
  - what you are doing or about to do
- Allow time for pt to process information
  - use simple & brief sentences
  - pt’s response may be delayed

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Management- Pharmacological

If attempting to restore pt’s cognition/ability to communicate:
- Do not use benzodiazepines alone - they may give temporary sedation/sleep but pt will wake with worsened confusion (exception: acute alcohol or benzo withdrawal)
- Use a neuroleptic as 1st line treatment
  - e.g haloperidol, risperidone (relatively non-sedating)
- For more agitated delirium use sedating neuroleptic (e.g. olanzapine, chlorpromazine, levomepromazine)
- Add benzo (e.g. oxazepam, lorazepam, midazolam) to 1st line neuroleptic

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Haloperidol (‘Serenace’) – Drug of choice for delirium in palliative care settings
- Effective in hyper- & hypoactive types
- Does not induce marked sedation (in the usual doses used)
- More effective for ‘positive symptoms’ (agitation, delusional thinking, hallucinations)
- Than for ‘negative’ ones (somniaclence, cognitive failure – these resolve more slowly)
- Oral or s.c routes available

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ADVERSE EFFECTS
- EPS – (esp rigidity/stiffness) much less common when s.c route used
- Combined with benzo’s
- Acute dystonic reactions – rare in dosages usually used
- Akathisia /motor restlessness – dose-dependant
- NB. may present as restlessness/agitation and so be treated with 1 doses of neuroleptics – further worsening of SX’s
- Prolongation of QT interval (? significance in aged care/pall care pt’s)
- Sedation – not common esp when given parenterally
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Risperidone (‘Risperdal’)
- oral route only
- not sedating, less EPS’s, less akathisia, no anti-cholinergic s/e’s
- useful if pre-existing Parkinson’s Disease

Olanzapine (‘Zyprexa’)
- oral, buccal or IM
- more sedating than others – may be useful esp nocte
- anti-cholinergic effect may be significant if > 10mg/24hrs
- EPS’s uncommon
- has broad-spectrum anti-emetic activity
- Can be used in Parkinson’s patients

Quetiapine (‘Seroquel’)
- oral only
- relatively low doses in delirium (cf psychoses)
- virtually no EPS’s at these doses
- reasonably sedating

Delirium in the Terminal Phase
**“Terminal restlessness”**
- Is an agitated/ hyperactive delirium at or near the end of life
  - Usually multifactorial
  - Almost always irreversible
  - BUT
  - Check for full bladder/bowel
  - Is pain controlled?
  - Consider opioid dose (if causing myoclonic jerks) or opioid rotation
  - Symptom control is essential (i.e. sedation) to relieve suffering

Delirium in the Terminal Phase
- Benzodiazepines are usually 1st choice
  - sedative
  - anxiolytic
  - anti-convulsant
    - Lorazepam
    - clonazepam oral drops
    - clonazepam by csci
    - midazolam by csci
  - Dosages should be titrated quickly according to clinical response
  - Some pt’s are relatively resistant to effects of benzo’s
  - Usually cease haloperidol at this stage as not able to restore pt’ cognitive function

Levomepromazine (‘Nozinan’)
- (aka methotrimeprazine)
- broad-spectrum anti-emetic
- some analgesic effects
- very sedative (like chlorpromazine)
  - can be given by csci in syringe driver
  - can be very effective used with or without a benzo in very agitated pt’s who show resistance to benzo’s
Questions.............
  Questions............
    Questions..........