Delirium

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Case Study

Mrs B is a 70 yo female. Her daughter brings her to the emergency department with ↑ confusion and disorientation that seemed to emerge almost overnight

- In the ED, her daughter explains Mrs. B was crying and distressed, complaining of seeing funny shapes on the ceiling the night before
- She is found to have a UTI and admitted to hospital
- In the morning rounds, she is described as “CAM +”

Confusion Assessment Method (CAM)

1. Acute onset and fluctuating course
2. Inattention
3. Disorganized thinking
4. Altered level of consciousness

Diagnosis of delirium by CAM requires presence of features 1 and 2 + 3 or 4

Inouye SK et al., Ann Intern Med 1990

Delirium- Who cares?

- 10-15% of general medical inpatients are **delirious at any given time**
- 30-50 % of acutely ill geriatric patients become **delirious sometime during their hospitalization**
- Delirium is associated with longer hospitalization
- Delirium is associated with increased risk of pressure ulcers and infections
- Delirium is a predictor of 12-month mortality

DSM-5 Criteria for Delirium

A) Disturbance in **attention** and **awareness**

B) Disturbance develops over a **short** period of time, represents a **change** from baseline, **fluctuates**

C) Additional disturbance in cognition

D) Disturbance in A and C are not better explained by another neurocognitive disorder, do not occur in the context of a severely reduced level of arousal (coma)

DSM-5 Criteria for Delirium

E) There is evidence from history, physical or laboratory findings that the disturbance is a **direct physiological consequence** of another medical condition, substance intoxication or withdrawal or exposure to a toxin*

*this can sometimes be challenging

Specify substance intoxication, withdrawal, medication-induced, due to another medical condition; hyperactive, hypoactive, mixed

Associated Features of Delirium
(Why it can look like many other disorders)

- Sleep-wake changes
- Psychomotor changes
- Mood/affect changes
- Rapid shifts from one psychomotor/mood state to another
- Delusions
- Hallucinations
- Neurologic abnormalities e.g. tremor, asterixis, myoclonus
- Personality changes e.g. irritability, jocularity etc

Inpatient Care of Patients with Cognitive Impairment

- Delirium prevention and treatment
- Consent & capacity issues
- Attention to basics – nutrition, bowels, skin care, safety, exercise, routines
- Clarify goals of care

What is the Treatment of Delirium?

The treatment of delirium is the treatment of the underlying source of the delirium while minimizing the physical and psychological distress to the patient.

Thinking about etiology…

- In the brain/Out of the brain/Drugs in/Drugs Out
- I WATCH DEATH:
  - **I**nfection
  - **W**ithdrawal
  - **A**cute Metabolic
  - **T**rauma
  - **C**NS Pathology
  - **H**ypoxia
  - **D**eficiencies
  - **E**ndocrinopathies
  - **A**cute Vascular
  - **T**oxins/Drugs
  - **H**eavy Metals

Determining Etiology…

No ‘routine tests’ -

Together with <u>history and physical exam findings</u>, consider:

1. Blood chemistry (glucose, lytes, CBC, renal and liver function tests)
2. Thyroid function
3. Urinalysis and Urine Culture
4. Blood culture
5. Chest X-Ray

Biological Treatment

- Identify precipitants or contributors to delirium
- Wean off medicines that exacerbate or cause delirium if medically possible e.g. anticholinergic medicines, opioids, steroids
- Specific withdrawal/intoxication interventions
- Neuroleptics for behaviour, mood lability, safety
- Benzodiazepines for **BZD or ETOH withdrawal ONLY OR for patients in whom neuroleptics are contraindicated**

Psychological Treatment

- Patient education and support
- Support re: paranoia and other frightening Sx
- Avoid physical restraint if possible
- Clear communication
- Frequent reorientation

" I know you are feeling confused sometimes; we are working on it;
Many patients in hospital get confused with surgery and then it improves"

Social/Environmental Treatment

- Avoid extremes of noise
- ↑exposure to lighting (move patient be near a window)
- ↓nurse, room, floor changes
- ↓hs interruptions
- ↑ hearing, vision
- Family education
- Familiar objects, calendars/white boards
- Consider a sitter/1:1

Use of Neuroleptics

(low and slow still applies but not at the expense of patient suffering or safety)

Mainstay **Typical Neuroleptic** is

Haloperidol

- It is high potency so it carries a low anticholinergic burden BUT has a higher risk of EPS
- Has the benefit of availability in oral and IM/IV forms SO IF PATIENT IS UNABLE TO TAKE po THEN HALOPERIDOL IS AN IMPORTANT PART OF REGIMEN

- Initiate .5-1 mg IM/IV in elderly patients q1-2h until agitation managed for stat or prn situations
- .5-2 mg po q4-6 h will often suffice in delirium in the elderly

-loxapine is mid-potency
- Generally mid and low potency to be avoided unless EPS vulnerability very high

Atypical Neuroleptics

- **Risperidone- less sedating, less EPS than haloperidol but more than quetiapine or olanzapine**
  - **Dose for the elderly: .25-.5 mg bid or qhs**
  - **(With sundowning the hs dose may be given in the evening/dinner hour rather than a night)**
- **Olanzapine-more sedating, some association with increased liver transaminases, and the most anticholinergic so potentially problematic in elderly with delirium and/or baseline dementia**

ALL of the above primarily available for daily PO ADMINISTRATION

Atypical Neuroleptics

- **Quetiapine - consider for very EPS sensitive patients (Lewy Body, Parkinson's)**
  - **Risks include hypotension and sedation**
  - **6.25mg-50 mg po qhs; consider bid dosing if 24 hr agitation**
  - **(notice wide dose range)**
- **Aripiprazole- newer neuroleptic**
  - **Early studies indicating similar efficacy for sx of delirium; generally well tolerated with modest sedation, minimal QT prolongation & mild EPS**
  - **For elderly patients, suggest starting dose of 2mg or 4 mg po qhs**
  - **Studies indicate average daily effective dose is 8mg**

ALL of the above primarily available for daily PO ADMINISTRATION

Neuroleptics & Side Effects

- All neuroleptics ↑ QT interval*: ↑ QT intervals contribute to ↑ risk of cardiac arrhythmias
  - A careful risk benefit assessment of the risks of ↑ QT vs the patient care benefits of treating delirium-associated suffering/behavioural symptoms should be done when baseline QT is high (esp > 500) or QT increases with neuroleptic initiation
- All neuroleptics ↓ the seizure threshold so caution is indicated in patients with known seizure disorders and/or withdrawal deliriums
- Patient situations where neuroleptics may be relatively contraindicated because of EPS vulnerability:
  - Patients with Parkinson's disease
  - Patients with Lewy Body Dementia

* Abdelmawla & Mitchell (2006) Adv Psych Treatment

Delirium Pearls

- Delirium is often quiet & can last weeks to months
- The failure to find an etiology does not exclude delirium-many typical signs and symptoms of illness are masked in the elderly
- Cross- sectionally, delirium and dementia can look the same so **clarifying baseline** is critical

- A low MMSE in a delirious patient does not mean that they also have dementia
- A delirious patient is not "**medically cleared"**
- The patient who was fine before and now is not, is delirious until proven otherwise
- Not finding an etiology for delirium does not in itself mean the patient has a "new baseline" BUT the prognosis for delirium superimposed on dementia is worse than delirium alone

Quiz 1

- Benzodiazepines use in the context of delirium can worsen patient's confusion except for few cases. Please list 3 clinical conditions where benzodiazepines can help in the context of delirium?

Quiz 1

1. Alcohol withdrawal
2. Benzodiazepine withdrawal
3. In cases where neuroleptics are contraindicated*

Lorazepam can still make delirium worse in some of those contraindicated situations; however lorazepam may still be a better risk/benefit choice if one is priorizing avoiding EPS or mortality risks associated with LBD OR severe torsade risk

Quiz 2

- List 5 environmental or social interventions that can help patients who have delirium?

Quiz 2

- Avoid extremes of noise
- ↑exposure to lighting (move patient be near a window)
- ↓nurse, room, floor changes
- ↓night interruptions
- ↑ hearing, vision
- Family education
- Familiar objects, calendars/white boards
- Consider a sitter

Quiz 3

- Are there routine blood work/ investigations that are recommended in cases of delirium?

Quiz 3

There are no ‘routine tests’ -

BE GUIDED BY HISTORY AND PHYSICAL EXAM AND CONSIDER:

1. Blood chemistry (glucose, lytes, CBC, renal and liver function tests)
2. Thyroid function
3. Urinalysis and Urine Culture
4. Blood culture
5. Chest X-Ray