Acute Confusional States

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Acute Confusional States - Outline

• Definition
• Signs
• Assessment
• Management
• Mental Capacity Act
• Conflict Resolution
• Prognosis

• Cases Throughout
Acute Confusional States

• I.e. Delirium

• It is an acute, fluctuating and reversible change in someone’s mental state.
  • Some consider it an ‘acute brain failure’.
  • May be:
    • Hyperactive – agitated, restless
    • Hypoactive – withdrawn, quiet
    • Mixed

• Affects up to 20% of hospital inpatients!
  • Increased morbidity/mortality
  • Increased length of stay
  • Increased costs
Signs of Delirium

- **D**isordered thinking
- **E**uphoric, fearful, depressed or angry
- **L**anguage impairment
- **I**llusions, delusions and hallucinations
- **R**eversal of sleep-wake cycle
- **I**nattention
- **U**naware/disorientated
- **M**emory deficits
Diagnosing Delirium

• NICE recommend diagnosis by using the CAM (Confusion Assessment Method) which is linked with the DSM criteria (see below).

• The CAM is a tool that diagnoses delirium if the following criteria are met:
  • Presence of acute onset and fluctuating course AND
  • Inattention
  • AND EITHER
  • Disorganized thinking OR Altered level of consciousness

<table>
<thead>
<tr>
<th>DSM-IV-TR diagnostic criteria</th>
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<tbody>
<tr>
<td>A. Disturbance of consciousness (i.e., reduced clarity of awareness of the environment) with reduced ability to focus, sustain, or shift attention.</td>
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<td>B. A change in cognition (such as memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance that is not better accounted for by a preexisting, established, or evolving dementia.</td>
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<td>C. The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.</td>
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<td>D. There is evidence from the history, physical examination, or laboratory findings that the disturbance is caused by the direct physiological consequences of a general medical condition.</td>
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## Comparative Features of Delirium and Dementia

<table>
<thead>
<tr>
<th>Delirium</th>
<th>Dementia</th>
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<tbody>
<tr>
<td>Develops suddenly/specific time</td>
<td>Onset is insidious/uncertain time</td>
</tr>
<tr>
<td>Fluctuating, usually reversible</td>
<td>Slow, progressive course</td>
</tr>
<tr>
<td>Usual duration of days to weeks</td>
<td>Usual duration of years</td>
</tr>
<tr>
<td>Cause: usually condition/medication/withdrawal</td>
<td>Cause: usually neurologic (e.g., Parkinson’s disease) or cardiovascular disorder (e.g., vascular dementia)</td>
</tr>
<tr>
<td>Greatly impaired attention</td>
<td>Attention only impaired in severe dementia</td>
</tr>
<tr>
<td>Varied range of consciousness</td>
<td>Normal level of consciousness (only impaired in severe dementia)</td>
</tr>
<tr>
<td>Variable orientation to time and place</td>
<td>Impaired orientation to time and place</td>
</tr>
<tr>
<td>Inappropriate, slow, and frequently incoherent language</td>
<td>Struggle to find the appropriate word</td>
</tr>
<tr>
<td>Sundowning—symptoms almost always worse at night</td>
<td>Symptoms often worse at night</td>
</tr>
<tr>
<td>Varied memory</td>
<td>Memory loss, particularly for recent events</td>
</tr>
<tr>
<td>Visual and tactile hallucinations are prominent</td>
<td>Delusions occur in 40% of individuals</td>
</tr>
<tr>
<td>Requires immediate medical attention</td>
<td>Requires nonemergency medical attention</td>
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### Case 1

Dorothy is an 87 year old lady who has been an inpatient for 4 days after a fractured neck of femur repair.

Her family are concerned that she seems more confused than usual and not engaging in conversation. She says she keeps seeing her deceased husband.

### Case 2

Justin is an 18 year old boy who is brought to AnE at 2am on Saturday night by his friends.

They say he seems more drunk than usual, getting increasingly drowsy, incoherent and disorientated. He is not following your requests.

### Case 3

Craig is a 34 year old man who is day one following an emergency strangulated hernia repair.

The nurses are concerned that he is more agitated than when he was admitted and has started threatening other patients.

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**Is it an Acute Confusion State?**

**What could be the cause?**
## Causes of Delirium

### “I WATCH DEATH”

<table>
<thead>
<tr>
<th>Potential Causes</th>
<th>Differential Diagnosis</th>
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<tbody>
<tr>
<td><strong>Infectious</strong></td>
<td>Sepsis, encephalitis, meningitis, syphilis, central nervous system abscess</td>
</tr>
<tr>
<td><strong>Withdrawal</strong></td>
<td>Alcohol, barbiturates, sedative-hypnotics</td>
</tr>
<tr>
<td><strong>Acute metabolic</strong></td>
<td>Acidosis, electrolyte disturbance, hepatic/renal failure, other metabolic disturbances (glucose, magnesium, calcium)</td>
</tr>
<tr>
<td><strong>Trauma</strong></td>
<td>Head, burns</td>
</tr>
<tr>
<td><strong>Central nervous system disease</strong></td>
<td>Hemorrhage, cerebrovascular accident, vasculitis, seizures, tumor</td>
</tr>
<tr>
<td><strong>Hypoxia</strong></td>
<td>Acute hypoxia, chronic lung disease, hypotension</td>
</tr>
<tr>
<td><strong>Deficiencies</strong></td>
<td>Vitamin B12, hypovitaminosis, niacin, thiamine</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Hypo/hyperthermia, endocrinopathies, diabetes, adrenal, thyroid</td>
</tr>
<tr>
<td><strong>Acute vascular</strong></td>
<td>Hypertensive emergency, subarachnoid hemorrhage, sagittal vein thrombosis</td>
</tr>
<tr>
<td><strong>Toxins/drugs</strong></td>
<td>Medications, street drugs, alcohols, pesticides, industrial poisons, carbon monoxide, cyanide, solvents, etc.</td>
</tr>
<tr>
<td><strong>Heavy metals</strong></td>
<td>Lead, mercury</td>
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Assessment

• History (with collateral) is key
• Utilise cognitive assessment tools (e.g. AMTS, MMSE, MOCA)

• ABCDE

• Look at their drug chart
  What are they taking, or not taking?
• Check their observations
  Hypotensive, hypoxic, temperature?
• Look for infection
  Urine dip, CXR, Blood culture
• Check their U+Es, TFTs, Haematinics
• Check their glucose

• Further tests as indicated:
  • CT head (if focal neurology, history of fall, raised ICP)
  • Lumbar Puncture

“I’m stumped. We’ll have to wait for the autopsy.”
The mini mental state examination

Orientation
Year, month, day, date, season
Country, county, town, hospital, ward (clinic)

Registration
Examiner names three objects (for example, apple, pen, and table).
Patient asked to repeat objects, one point for each.

Attention
Subtract 7 from 100 then repeat from result, stop after five subtractions. [Answers: 93, 96, 79, 72, 65]
Alternatively, if patient errs on subtraction get them to spell world backwards: D I R O W
Score best performance on either task.

Recall
Ask for the names of the objects learned earlier.

Language
Name a pencil and a watch.
Repeat: "No ifs, and or buts."
Give a three-stage command. Score one for each stage (for example, "Take this piece of paper in your right hand, fold it in half and place it on the table.
Ask patient to read and obey a written command on a piece of paper stating: ‘Close your eyes.’
Ask patient to write a sentence. Score correct if it has a subject and a verb.

Copying
Ask patient to copy intersecting pentagons.
Score as correct if they overlap and each has five sides.

Total score: ______________________
### Medications Associated with Delirium

<table>
<thead>
<tr>
<th>General Drug Class</th>
<th>Specific Drug Types</th>
<th>Example Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticholinergics</td>
<td>$H_1$ receptor blockers</td>
<td>diphenhydramine, meclizine, hydroxyzine</td>
</tr>
<tr>
<td></td>
<td>Antiparkinson</td>
<td>benztropine</td>
</tr>
<tr>
<td></td>
<td>Phenothiazine</td>
<td>promethazine</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Tricyclics</td>
<td>amitriptyline, nortriptyline</td>
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<tr>
<td></td>
<td>SSRIs</td>
<td>fluoxetine, sertraline</td>
</tr>
<tr>
<td>Sedative</td>
<td>Benzodiazepines</td>
<td>alprazolam, diazepam</td>
</tr>
<tr>
<td>Analgesics</td>
<td>Opioids</td>
<td>codeine, morphine</td>
</tr>
<tr>
<td>Antiinflammatory</td>
<td>NSAIDs</td>
<td>aspirin, ibuprofen</td>
</tr>
<tr>
<td></td>
<td>Corticosteroids</td>
<td>hydrocortisone, prednisone</td>
</tr>
<tr>
<td>Antihypertensives &amp;</td>
<td>Beta blockers</td>
<td>metoprolol, propranolol</td>
</tr>
<tr>
<td>Antiarrythmics</td>
<td>Ace inhibitors</td>
<td>lisinopril, captorpril</td>
</tr>
<tr>
<td></td>
<td>Calcium channel blockers</td>
<td>amlodipine, nifedipine</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>digoxin</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Quinolones</td>
<td>levofloxacin, ciprofloxacin</td>
</tr>
<tr>
<td></td>
<td>Macrolides</td>
<td>azithromycin, clarithromycin</td>
</tr>
<tr>
<td>Anticonvulsives</td>
<td>Barbiturates</td>
<td>phenobarbital</td>
</tr>
</tbody>
</table>
### Case 1 - Dorothy

**Col. Hx:** Normally independent and high functioning. Non-smoker. On regular Cocodamol.

**Obs:** BP115/63 P98 RR 19 Sats 98% air T37.4  
**O/E:** wound site clean, bruise on the back of the head  
No other changes from admission

**Bloods:** WCC 24 CRP 46 Glucose 6.4  
Na 148 K 5 Urea 17.1 Crea 210

**Urine Dip:** Nit + Leuc + Prot + Bld -

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### Case 2 - Justin

**Col. Hx:** ?T1DM, friends say he always injects himself with something. They think he has epilepsy too.

**Obs:** BP 138/89 P98 RR17 Sats 99% air T36.4  
**O/E:** Alcohol smell noted, sweaty,  
GCS 12/15 (E3 V4 M5) Nil else

**ABG:** pH 7.39 pO2 13.4 pCO2 4.8 HCO3 25  
Na 147 K 3.3 Glu 1.1 Lac 1.9

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### Case 3 - Craig

**Col. Hx:** No next of kin. Patients say he has been vomiting and getting agitated all day.

**Last Obs:** BP145/86 P101 RR 18 Sats 98% air T36.5  
**FBC:** Hb 102 MCV 105 WCC 25.2  
**O/E:** Unkempt, tremulous, sweaty. Non-cooperative with examination.  
He starts physically attacking one of the other patients.
### Case 1 - Dorothy
- Stop the Codeine
- Environmental modifications
- Antibiotics for UTI
- CT Head
- Fluids
- Consider TFTs

### Case 2 - Justin
- Glucose! (+/- fluids)
  - Orally if possible
  - Dextrose IV

  **Note**
  *Glucagon IM can be used in hypoglycaemia but not in alcohol-induced hypoglycaemia, as the cause of low glucose in this case is inhibition of gluconeogenesis.*

- ?Epileptic Medication Toxicity
- ?Drug levels

### Case 3 - Craig
- Call security (?intervene using “reasonable” force, as per the Criminal Law Act 1967)
- Are communication techniques effective?

- Lorazepam 0.5-1mg PO/IV/IM
  *If alcohol withdrawal, Diazepam/Chlordiazepoxide are preferred.*

- Thiamine (i.e. Pabrinex), and investigate other deficiencies
Management - Environmental

• Clear communication
• Continually re-orientate the patient
  • verbally, clocks, calendars, open curtains
• Home comforts
  • photographs, ornaments etc.
• Get the family present

• Staff consistency
• Use health advocates if required
• Control temperature and lighting levels
• Single rooms if possible

• Prevention is better than cure
• MDT approach to identify high risk patients
Management - Medical

• Treat the underlying cause
• Avoid use of sedatives unless no alternative
  • i.e. Patient is at risk to self or others and environmental tactics have failed

Options:
• Low dose benzodiazepine e.g. Lorazepam
  0.5-1mg PO/IV/IM
• Antipsychotics e.g. Haloperidol
  0.5-2mg PO/IV/IM
• Atypical antipsychotics e.g. Clozapine
• Start with low-dose and reassess.
Mental Capacity Act (2005)

• Different to the Mental Health Act which only governs the assessment and treatment of mental health disorders.

• **The MCA is based on 5 principles**
  • Capacity is presumed
  • Individuals should be supported to make decisions
  • Decisions made can be unwise/eccentric
  • Always act in the best interest of the patients
  • Use the least restrictive intervention

• **Capacity** is decision specific. To have capacity, one must:
  • Understand the information
  • Retain the information
  • Use the information to make an informed decision
  • Communicate the decision
Mental Capacity Act (2005) continued

Deprivation of Liberty Safeguards (DoLS) – part of the MCA
• A DoLS is required in a patient who lacks capacity if the deprivation of liberty is in the best interests of the patient and is disputed by the patient or family.
• DoLS is a broad term but includes, for example, denying discharge, using restraint, one-to-one supervision.
• Standard application can take 21 days. Urgent applications can be made.

Independent Mental Capacity Advocate (IMCAs)
• Neutral professionals appointed to act on behalf of patients who have no-one to represent them.
• Must be involved in serious decisions/DoLS applications if other suitable advocates are not available.

• Individuals can make Advanced Directives that govern decisions if they lose capacity
• They cannot demand treatments that are not medically justified
• Lasting Powers of Attorney allow others to be appointed to act in the patient’s best interests.
Conflict Resolution

• You may all be exposed to situations in which a person becomes agitated, angry and/or aggressive.

• Possible Triggers/Exacerbators:
  • Long wait before consultation/delays in investigations or treatment
  • Receiving Bad News
  • Loss of Control (e.g. forced dependency)
  • Mental health problems
  • Substance abuse/medications (active or withdrawal)
Conflict Resolution (continued)

• There is usually a progression through certain behaviours and there are specific warning and danger signs that should be watched for.

- Compliance – the person will offer no resistance and complies with your request.
- Verbal resistance and gestures – the person refuses to comply either verbally or with their body language.
- Passive resistance – the person will either sit or stand and will not move.
- Active resistance – the person pulls away or pushes you, but makes no attempt to strike.
- Aggressive resistance – the person physically attacks you.
- Serious or aggravated resistance – the person causes serious injury and may use weapons.

**Warning signs**
(if you can deal with these then they may never become danger signs)
- Direct prolonged eye contact
- Facial colour may darken
- Head is back
- Subject stands tall
- Kicking the ground
- Large movements close to people
- Breathing rate accelerates
- Behaviour may stop / start abruptly.

**Danger signs**
(you need to think of your escape plan)
- Fists clenching and unclenching
- Facial colour may pale
- Lips tighten over teeth
- Head drops to protect throat
- Eyebrows droop to protect eyes
- Hands rise above waist
- Shoulders tense up
- A sideways stance is adopted
- Stare is now at intended target
- Lowering of body to launch forward.

• When assessing a conflict resolution scenario, there are certain factors that should be borne in mind:
  - People: gender, age, size, mental state, number
  - Objects: alcohol or drugs, potential weapons
  - Environment: Time of day, space, safety exits, alarms
Conflict Resolution (continued)

“Dos”

• Recognise the signs of anger and try to prevent escalation.
• Stay calm and composed.
• Acknowledge the legitimacy of the emotion but don’t appropriate blame, i.e. show empathy.
• Apologise if appropriate.
• Demonstrate active listening
• Try to de-escalate the situation, e.g. soft voice, neutral body position
• Provide assertive explanation of what is not appropriate if required
• Keep your space, get help if required.

“Don'ts”

• Interrupt the person
• Get angry/raise your voice/’square-up’
• Be defensive about the situation
• Try to pacify using touch
Acute Confusional States - Prognosis

• Approx 2/3rds of patients should see complete resolution of the ACS. However, the ACS may last longer than the underlying cause.

• There may be a prolonged (e.g. 12 months) or residual deficit in some individuals.

• The presence of an ACS increases the risk of hospital acquired infections, fractures, pressure sores.
Summary

• Delirium is a common condition, especially in hospitals.

• Its causes are legion; it is not the psychiatrists’ problem to sort.

• Simple environmental techniques are beneficial.

• Treat the underlying cause.

• Short acting benzodiazepines or Haloperidol are first line medications if required but they should be avoided if possible.
Thanks

Any Questions?

Bibliography
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www.patient.co.uk/doctor/delirium
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