Assessment of a confused patient

Confusion is a widely used term that has different meanings amongst both healthcare professionals and patients and carers. Confusion is commonly used to describe patients with dementia, delirium or psychosis but can be used to describe patients with dysphasia and dyspraxia (for example in stroke). The assessing doctor must establish what is meant by the term confusion and to encourage use of more specific terminology. Most patients presenting acutely with confusion will have delirium. This article concentrates on how to assess patients with delirium.

Delirium is common in both primary and secondary care settings. Its average prevalence in older people in general hospitals is 20%. With two thirds of NHS beds occupied by patients aged over 65 years this condition is not confined to Care of the Elderly wards with post operative delirium in up to 47% of patients. Doctors across all specialties need to understand how to assess patients with delirium. Delirium is still under diagnosed and goes unrecognised, or misattributed to dementia, in as many as two thirds of cases. Patients with delirium have higher mortality, higher complication rates and increased lengths of stay in hospital. Early recognition and assessment is important to ensure prompt and appropriate management.

Reduced consciousness and attention are early signs of delirium; DSM IV describes the full clinical picture:
1. Disturbance of consciousness with reduced ability to focus, sustain or shift attention.
2. 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 pre-existing, established, evolving dementia.
3. The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.
4. There is evidence from the history, physical examination and laboratory findings that the disturbance is caused by the direct physiological consequences of a general medical condition, substance intoxication or substance withdrawal.

There are three different clinical subtypes of delirium. Hyperactive delirium is characterised by increased motor activity including agitation, hallucinations and inappropriate behaviour whereas patients with hypoactive delirium show reduced motor activity and lethargy. Hypoactive delirium is less well recognised and has a poorer prognosis. There is a third subtype that presents a mixed picture.

History

Many of this patient group cannot provide an accurate history. An initial assessment of the patient’s cognitive function is important, especially if the level of the patient’s confusion is not clear. Establishing whether the patient is orientated...
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in time, person and place is quick and helpful. Cognitive screening tools such as the abbreviated mini mental test score \(^7\) and the “clox” test \(^8\) are helpful. These act as a crude but useful guide to how reliable the patient’s account is and the urgency of a collateral history. Cognitive assessments should be repeated to monitor changes in mental state over time.

A collateral history is essential whether from a family member, carer or GP. It is vital to establish what normal looks like for this patient. Carers or relatives should be encouraged to stay with the patient until a full assessment by an experienced member of the medical team has been completed. They will continue to be a valuable source of information throughout the admission.

Establish the patient’s baseline intellectual and functional status; is the patient independent with their finances, activities of daily living and mobility? If there has been a loss of independence when and why did this occur? Obtain details of any formal or informal care and of any concerns about the social set up prior to this episode of delirium.

The speed of onset and course of the delirium must be established. Ask the relative or carer to describe an example of the patient’s confusion. By eliciting specific features of the confusion the differential diagnoses are less likely to be missed (Box 1).

Consider the cause/s of the delirium

The patient, relatives and carers must be actively guided through a detailed history, including systems review, as relevant information may not be volunteered. The patient’s risk factors for delirium should be explored (Box 3). Have there been previous similar episodes of confusion and if so what were felt to be the precipitants? A detailed past medical history is important. This includes chronic conditions, for example diabetes and whether the patient is prone to “hypos”.

Common causes

A detailed drug history is vital. Ask why each medication is prescribed, including over the counter medications. Have there been any recent changes and if so, why. Establish background levels of adherence, reasons for non-adherence and the use of adherence aids. Clarify if medications have been omitted in the setting of this acute illness as a result of confusion. This is particularly important for antiepileptics and antiparkinsonian medication. Drugs that commonly cause delirium should be identified. These include neuroleptics, benzodiazepines, opioids and antihistamines. \(^9\) Other drugs that may be responsible include steroids, NSAIDS,

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**Box 1:** The differential diagnosis of delirium

- Dementia
- Depression
- Mania
- Hysteria
- Schizophrenia
- Dysphasia
- Dyspraxia
- Hard of hearing
- Visual impairment
- Sleep disorder
- Transient global amnesia
- Non-convulsive epilepsy/ temporal lobe epilepsy

**Box 2:** Common causes of delirium

- **Infection:** Pneumonia, urinary tract infection
- **Respiratory:** Hypoxia
- **Electrolyte disturbance:** Hyponatraemia, hypercalcaemia, dehydration, hyper/hypoglycaemia
- **Endocrine disorders:** Thyroid dysfunction
- **Nutritional:** Thiamine deficiencies
- **Drugs:** Including neuroleptics, benzodiazepines, opioids
- **Drug withdrawal:** Including alcohol
- **Cardiology:** Myocardial infarction
- **Neurology:** Stroke, subdural haematoma, epilepsy
- **Urinary retention**
- **Faecal impaction**
- **Severe pain**
Vignette 1

A 86 year old female was admitted on a Saturday with increasing drowsiness. Her medical history was not available. Medications brought in by the paramedics were paracetamol, amlodipine, digoxin, aspirin. On examination she was drowsy but rousable, no focal neurology and no other clinical signs elicited. Investigations showed moderately raised inflammatory markers, normal chest X-ray and urine dip. Review on the Monday showed no clinical improvement. Repeat examination, including the skin, revealed an area of ulceration and cellulitis on her forefoot, previously concealed by her slippers. Antibiotics were started and she made a full recovery within one week.

Top Tips:
- Delirium can present with drowsiness ie. hypoactive delirium
- Always complete a full examination, including the skin and removal of all dressings as areas of ulceration, infection and necrosis can be missed.

Examination

This is a vital part of the assessment of a confused patient, especially where no corroborative history is available. Clinical signs may be your only clue to an underlying cause and a detailed systems examination is necessary, including:

**Neurological**
Glasgow coma scale, evidence of focal neurology including speech and swallow.

**Gastroenterological**
Evidence of alcohol abuse or withdrawal, nutritional status, hydration status, abdominal examination including evidence of urinary retention and rectal examination.

**Cognitive assessment**
Standardised screening tools such as Abbreviated Mental Test should be carried out on all patients with the following risk factors:
- 65 years who are admitted to hospital
- Cognitive impairment (past or present) and/or dementia
- Current hip fracture
- Severe illness (a clinical condition that is deteriorating or at risk of deteriorating)

**Investigations**
Basic investigations that should be routinely carried out to investigate the cause of delirium include:
- Signs of infection: including urine analysis and examination of the skin for infection or ulcers.
- Bedside observations: including pulse rate, temperature, blood pressure and pulse oximetry
- Bloods: Full blood count, C reactive protein, urea and electrolytes, calcium, liver function, glucose
- Blood cultures
- Urinalysis
- Chest X-ray
- Electrocardiogram (ECG)

Further investigations that should always be considered include:
- Arterial blood gases: for example if hypercapnia or acidaemia are suspected
- Additional microbiology such as urine, sputum, cerebrospinal fluid

Box 3: Risk factors

- Dementia
- Old age
- Physical frailty
- Admission with infection or dehydration
- Polypharmacy
- Severe illness
- Surgery eg. fracture neck of femur
- Alcohol excess
- Visual impairment
- Renal impairment

tricyclic antidepressants and antiparkinsonian medication. Finally, take a reliable alcohol history.

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Vignette 2

A 84 year old female was admitted with a fall and fractured neck of femur. Past medical history included hypertension and breast cancer. Medications included tamoxifen, bendroflumethiazide. Regular codamol was started post operatively.

She became increasingly confused post-op. She had new urinary incontinence with normal urine dip and inflammatory markers. Initial investigations showed Na 124mmol/L. Despite stopping her bendroflumethiazide, and improvement in her sodium, the confusion persisted.

Further assessment demonstrated urinary retention and faecal impaction on PR. She was catheterised and started on laxatives. Confusion settled and she had a successful trial without catheter three days later.

Top Tips:

- Delirium is often multifactorial.
- If a patient becomes confused during an admission a thorough assessment is still just as important, but often overlooked.
- Consider urinary retention in patients with new urinary frequency or incontinence, not just in the anuric patient.

Conflict of interest: none declared

References

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