StarHealth

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# When confusion reigns

It can be easy to confuse delirium and dementia in the elderly, but they are different conditions with different causes and treatments.

By Dr TAY HUI SIAN

DELIRIUM is not a disease, but a clinical syndrome caused by many reasons.

It is also known as acute brain syndrome.

Delirium is muddled thinking or the inability to think clearly, and includes impairment of orientation, memory, attention and behaviour.

It manifests as a fluctuating degree of arousal/consciousness, disordered behaviour, no purpose, abnormal perception, inability to concentrate, and reversed day and night.

Usually, the onset is rapid (over a number of days) and the condition fluctuates significantly.

It is often aggravated at night – this is called the "sundowning" phenomenon.

Relatives and friends often notice big changes between visits.

## Symptoms of delirium

The hallmark of delirium is the inability to concentrate, so the patient finds it difficult to process new information from time to time, repeat recent events, or understand what is happening around them.

This also results in disorientation.

The sudden occurrence of confusion about time and place can be an early sign of delirium.

If their condition is severe, the patient may not know who they or others are; they may be confused and wander around with no purpose, and sometimes have incoherent speech.

Their sleep-wake cycle is also usually reversed, meaning that they sleep during the day and are awake at night.

Patients with delirium may be frightened by strange visual hallucinations where they see non-existent people or things.

In addition, some have paranoia, such as unprovoked feelings of persecution, or an irrational and persistent feeling that people are "out to get them".

They may experience delusions, such as false beliefs that are misunderstandings of perceptions or experiences.

The personality and mood of the patient may change.

Delirium is divided into three clinical subtypes, which are:

> **Hyperactive delirium**

Patients with this type of delirium are generally very wide awake.

They experience restlessness, irritation and hallucinations, as well as exhibit inappropriate behaviour and frequent back-and-forth pacing.

> **Hypoactive delirium**

This type of patient exhibits reduced physical activity.

They are generally drowsy, quiet and withdrawn, showing a lack of interest in any activity and often sleeping a lot.

> **Mixed delirium**

These patients show signs and symptoms of both hyperactivity and reduced activity.

## The cause of delirium

Delirium is common in elderly patients and tends to last longer in older people.

It is estimated that 1% to 2% of those over the age of 55 years old in the community have delirium, rising to 31% in those over 70 years old.

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# Triggered by illness

## Delirium vs dementia

**Here are the differences in presentation between delirium and dementia.**

| DELIRIUM | | DEMENTIA |
|---|---|---|
| Abrupt, at a precise time | Onset | Usually insidious (but can be abrupt in stroke) |
| Fluctuates, usually over minutes to hours | Course | Slow decline, with good and bad days |
| Reversible | Reversibility | Irreversible |
| Hours to weeks | Duration | Months to years |
| Impaired | Attention | Initially intact, but often impaired as disease progresses |
| Reversed | Sleep-wake cycle | Usually normal |
| Present | Sundowning | Present |
| Impaired | Consciousness | Normal |
| Impaired | Orientation | Initially intact, but impaired as disease progresses |
| Agitated, withdrawn or a combination of both | Behaviour | Initially normal |
| Incoherent; can be rapid or slow | Speech | Problem with finding words |
| Disorganised, delusional | Thoughts | Impoverished |
| Impaired, but variable recall | Memory | Memory loss, especially for recent events |
| Hallucination, delusion | Perception | Initially intact |
| Associated | Acute illness | Unassociated |

*Source: Dr Tay Hui Sian*

TheStargraphics

The elderly comprise between 10% and 40% of hospitalised patients.

Among hospitalised patients, the rates of delirium are 14% to 24% in emergency department patients, 15% to 53% in postoperative patients, 70% to 87% in intensive care patients, and 80% in the terminally ill patients.

Despite this, delirium is unrecognised in two-thirds of patients, as there might not be fullblown clinical symptoms.

The recurrence rate of delirium is 20% at the three-month follow-up appointment.

While this condition is common in people with cognitive impairment, it is important to remember that it is not dementia (see graphic).

Delirium is usually another – and sometimes, the first – sign of a serious disorder.

There are many diseases that can cause delirium, like infection, dehydration, urinary retention, severe constipation, severe pain and sleep deprivation.

Electrolyte and metabolic disorders can also cause delirium, such as low blood sugar and either low or high calcium, magnesium and sodium levels.

Some endocrine disorders (e.g. thyroid, parathyroid, pituitary), vitamin deficiencies (e.g. vitamin B12, folate, thiamine), and any brain, kidney, liver or heart problems, can cause delirium.

Sedatives and other drugs that affect brain function, as well as alcohol, are the most common substances that induce delirium.

However, drugs that do not affect brain function, including many over-the-counter medications (especially antihistamines to relieve symptoms of allergy), can also induce delirium.

Being in a new environment, such as admission to the hospital or a new nursing home can also cause delirium.

The risk factors for this condition include:

> Increasing age
> Dementia, depression or other psychiatric disorders
> Past history of delirium
> Sensory impairment, e.g. social isolation, not having or wearing the necessary glasses or hearing aids
> Malnutrition
> Polypharmacy, i.e. the use of three or more medications at one time
> Other medical conditions, especially kidney or liver disease
> History of alcohol and/or substance abuse
> Being in the post-operative period, and
> Nearing the end of life.

Certain age-related changes make older people more prone to delirium.

These changes include increased sensitivity to drugs and changes in the brain.

Older people tend to have fewer brain cells and lower levels of the neurotransmitter acetylcholine.

Any serious disease can lead to a decrease in the level of acetylcholine in the brain, which affects brain function and induces delirium.

In addition, older people are more likely to suffer from other diseases that make them more prone to delirium.

Such diseases include stroke, dementia, Parkinson's disease, dehydration and malnutrition, among others.

## Diagnosing delirium

According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), a patient must exhibit all four of the following characteristics in order to be diagnosed with delirium.

> **Disturbance of consciousness**, i.e. decreased clarity of awareness of the environment, accompanied by decreased concentration, retention, or ability to divert attention.

This may be mild, and initially only manifests as lethargy or distraction.

Clinicians or family members often think that it is related to the primary disease and do not pay attention to it.

> **Cognitive changes** (e.g. memory loss, disorientation, language impairment) or perceptual impairment that cannot be explained by pre-existing or current dementia.
> This syndrome **appears in a short period of time** (usually a few hours to a few days), manifesting as an acute onset, with symptoms that often fluctuate throughout the day.
> Evidence from medical history, physical examination or laboratory test results indicates that this disorder is **directly caused by medical disease, substance poisoning or withdrawal, or medications use**.

Changes in attention and cognition do not occur when the level of consciousness is severely reduced (e.g. in a coma).

In many cases, there may be multiple causes of delirium and it is not easy to clarify which are the causes.

However, it is important to identify them as soon as possible, so that treatment can be started immediately.

Causes of delirium can be determined based on medical history, physical examination, mental state test and corresponding examinations.

A mental state test is important to help diagnose delirium, as well as distinguish between delirium and other mental disorders such as bipolar disorder, schizophrenia or depression.

It is crucial to obtain information from friends, families, carers or other observers, because people with delirium usually cannot answer questions.

Changes in medications can be obtained from evidence such as medical records, medicine bottles/packages and drug prescription records.

Recent letters, bills, chequebooks or missed appointments can also indicate changes in mental function.

## Prognosis for delirium

Delirium can last for hours, days, or even longer, depending on the severity and causes.

If the causes of delirium can be quickly identified and treated, most patients can fully recover.

Any delay will reduce the chance of a full recovery.

Even after treatment begins, some symptoms may continue for weeks or months, and may only improve slowly.

Hospitalised patients with delirium are more likely to have complications (including death) while in the hospital than those without delirium.

Approximately 35% to 40% of hospitalised patients with delirium die within a year, but the cause of death is usually due to another serious disease, not delirium itself.

Delirious patients have higher rates of healthcare-associated problems, such as falls, fractures, infections, malnutrition, dehydration, incontinence and pressure sores.

Hence, hospitalised delirious patients, especially elderly ones, have longer hospital stays, more expensive treatments and poor prognosis of rehabilitation.

In addition, they have higher chances of readmission to hospital and longer recovery time after discharge.

Delirium can also lead to a decrease in physical function, which makes them more dependent on others, and hence, much more likely to be discharged to a care home.

There might be a decline in cognitive ability, and in some patients, delirium gradually develops into dementia.

## Management of delirium

Delirium patients are prone to many complications.

As a result, they can benefit from treatment managed by an multidisciplinary team of doctors, physiotherapists, occupational therapists, nurses and social workers.

Management mainly includes aetiological, supportive and symptomatic treatments.

> **Aetiological treatment**

Most patients with delirium should be hospitalised for treatment.

However, when the cause of delirium is clear and easily corrected (e.g. low blood sugar), patients might be able to go home for treatment after a short observation in the emergency room.

Once the cause is determined, it should be corrected or treated immediately.

For example, the use of antibiotics to treat infections, intravenous fluids and electrolytes to treat dehydration and electrolytes imbalance, painkillers to treat pain, and medications to help with constipation.

Medications should be reviewed and stopped if they are unnecessary or cause delirium.

> **Supportive treatment**

This generally includes maintaining water and electrolyte balance, and supplementing nutrients appropriately.

The patient's diet and water intake is observed to ensure that they are adequate.

Patients who need to wear glasses or hearing aids should wear them.

Patients should also be encouraged to move around regularly.

During the entire period of delirium, it is recommended that appropriate environmental control is provided to give the patient sufficient support.

Patients should be given strong day or night clues.

During the day, the room should be kept as quiet and comfortable as possible, and there should be sufficient light to make patients aware of what and who is in the room and where they are.

At night, the lights should be dim, and the room should be quiet and disturbance kept to the minimal.

General measures are equally important. Putting clocks, calendars and family photos in their room can help patients improve their orientation.

Hospital staff and family members should try to ensure the safety of patients and remind them of the time and place.

Family members can also help them maintain a sense of orientation by visiting and talking to them.

Delirium patients are vulnerable to shock, and familiar voices have the effect of calming them down.

Patients who exhibit extreme anxiety, paranoia or hallucinations may harm themselves, other patients or their caregivers.

Preventive methods include encouraging family members to stay with the patient and placing them in a room near the nurse's station.

Devices such as intravenous infusion (IV) tubes, bladder catheters or padded restraints should be avoided as they can worsen the delirium and increase the risk of injury to the patient.

However, in some cases where the patient is unable to be prevented in removing their IV tube, a padded restraint device might be used.

Such devices should only be used with care by trained staff and released at frequent intervals.

It should be discontinued as soon as possible, as restraint devices can make patients restless and worsen their delirium.

> **Symptomatic treatment**

Medications should only be used to control delirium if all other measures are ineffective.

There are usually two types of drugs to choose from: antipsychotic drugs and benzodiazepines (sedative drugs).

Antipsychotic drugs, such as haloperidol, quetiapine, risperidone and olanzapine are the most commonly-used drugs.

Benzodiazepines, such as diazepam, can be used for delirium caused by withdrawal of alcohol.

However, they cannot be used to treat delirium caused by other diseases, as they can alter the patient's conscious level and make them drowsy.

Doctors should be careful when prescribing both types of drugs, especially for the elderly.

Aside from affecting their consciousness, these drugs can inhibit breathing and aggravate the patient's cognitive impairment.

They should only be used when the patient's symptoms threatens their own safety or the safety of others despite the best non-drug management methods.

Doctors should try to use the lowest dose possible and discontinue the medicine as soon as possible.

It is recommended that doctors communicate clearly with the patient's family regarding the use of the chosen medication and the potential side effects.

In conclusion, age and dementia are important predisposing factors in developing delirium.

Delirium is usually due to many causes and carries a serious risk of death.

However, most cases are reversible. Hence, early identification of the cause of the delirium and immediate treatment is important.

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