

## Delirium – is a clinical Orphan, Time for Action

Pravija Talapan Manikoth, Navas Nadukkandiyil\*, Manichandran and Hanadi Al Hamad

\*Department of Geriatrics, Al-Rumailah Hospital, Hamad Medical Corporation, Doha, Qatar.

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### ABSTRACT

Delirium is life-threatening medical emergency, it is complex neuropsychiatric syndrome which is acute in onset and presents with disturbance in consciousness, attention, orientation, cognition, perception caused by physiological consequence of a general medical condition. It is 1 in 5 hospitalized patients experience delirium and high prevalence in hospital settings - 14-24%. It also increases incidence during hospital stay - 6-56%. Delirium in hospitalized older adults can be associated with increased complications and mortality rates, increased need for nursing surveillance, increased healthcare expenditure, greater levels of functional impairment and higher nursing homes.

Despite its prevalence and profound impact on healthcare, delirium has a propensity to be under recognized by clinicians, as evidenced from studies by a lesser than 5% documentation rates. Recognition of delirium can be inherently difficult in part to its fluctuating nature, clinical overlap with dementia, multi-factorial etiology and the increased frequency of hypoactive subtype of delirium among older adults. In Qatar, the prevalence of delirium is high in elderly, it was found 15.3% aged above 65, which is alarming. So, it is important to early detect delirium among the patients presenting to the floor, to ensure avoid unnecessary consultation and investigations that delay disposition.

**Keywords:** Delirium, Medical emergency, Neuropsychiatric syndrome

### INTRODUCTION

Delirium is estimated to occur in 10-15% of medical-surgical inpatients [1,2]. It occurrence rate is 11-42% in medical wards and one third of the patient with acute stroke develops delirium.

#### Clinical features of delirium

**Acute onset:** Within hours to one or two days depending on the cause.

**Fluctuation in presentation:** Worse at night with periods of lucid intervals.

**Altered cognition:** Deficits in short term, immediate and working memory. Disorientation in time and place usually seen. Word finding difficulties, slurred speech.

**Altered level of consciousness:** Alert, hyper vigilant, drowsy, comatose. Level of consciousness may fluctuate.

**Inattention:** Inability to focus, sustain or shift attention, inability to follow commands, easily distractible.

**Perceptual abnormalities:** Macropsia, micropsia, illusions, hallucinations- visual more common (plucking the sheet) Auditory hallucinations also seen Purposeless behavior like picking with stereotyped behavior seen. Delusions may be present. 30% present with hallucinations.

**Disturbed sleep wake cycle:** Disturbed sleep, somnolence or complete reversal of sleep wake cycle.

**Disorganized thinking:** Irrelevant conversation, incoherent speech, altered rate of speech.

**Fluctuation in mood:** Labile mood, anxiety, agitation.

### DSM-IV CRITERIA FOR DELIRIUM

- Disturbance of consciousness with reduced ability to focus, sustain or shift attention
- Change in cognition or development of a perceptual disturbance not accountable by the preexisting, established or existing dementia

**Corresponding author:** Dr. Navas Nadukkandiyil, MD, FACP, FGS, Fellowship (ACGME-I) in Geriatrics, MSc, MBA Health Care Executive, Department of Geriatrics, Al-Rumailah Hospital, Hamad Medical Corporation, P.O box 3050, Doha, Qatar, Tel: 0097433050426; E-mail: drnavasnk30@gmail.com

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- Disturbance that develops over a short period of time and tends to fluctuate during the course of the day.
- Evidence from history, physical examination or laboratory findings that the disturbance is caused by the direct physiologic consequence of a general medical condition.

**WHY IS DELIRIUM IMPORTANT?**

Is a common problem in hospitalized patients in medical and surgical units?

It is an independent prognostic factor for longer-term outcomes, including high mortality rates, nursing home placement, cognitive and functional decline [1].

Delirium in ICU associated with an increase in the ventilator dependent days and significant burden on health care system [2].

Patient admitted with delirium, mortality rates- 10%-26% [3].

**CHALLENGES**

Poor detection rate (12-43%) leading to poor management of patients with delirium up to 80% [4].

Delirium in people with dementia unrecognized and undiagnosed, often lack of ownership and recognition of the delirium symptoms.

**SUBTYPES OF DELIRIUM [5]**

**Hyperactive delirium**

Patient restless, agitated, least common type.

**Hypoactive delirium**

Patients are drowsy, sleepy, quiet, apathy. They are underdiagnosed or misdiagnosed as depression. Highest mortality rates and longer hospital stay. Most common type.

**Mixed type**

Patients fluctuate between hypoactive and hyperactive.

**RISK FACTORS OF DELIRIUM**

Increasing age-1.1% in over 55's, 13.6% in 85 years above, dementia, severe medical illness, sensory impairment, frailty, polypharmacy.

**CAUSES OF DELIRIUM**

- **Infections:** UTI, pneumonia, encephalitis
- **Withdrawal:** Alcohol, BZD
- **Acute cause:** Dehydration, electrolyte disturbance, hepatic/renal metabolic failure (**Figure 1**)
- **Toxins/drugs:** Opiates, salicylates
- **CNS pathology:** Stroke, hemorrhage, TIA, tumors, seizures, infection
- **Hypoxia:** Pulmonary/cardiac failure
- **Deficiency:** Thiamine, vitamin B12
- **Endocrine:** Hypo/hyperglycemia, hyperparathyroidism
- **Acute vascular shock:** Hypertensive encephalopathy
- **Trauma:** Head injury
- **Heavy metals poisoning:** Lead, mercury

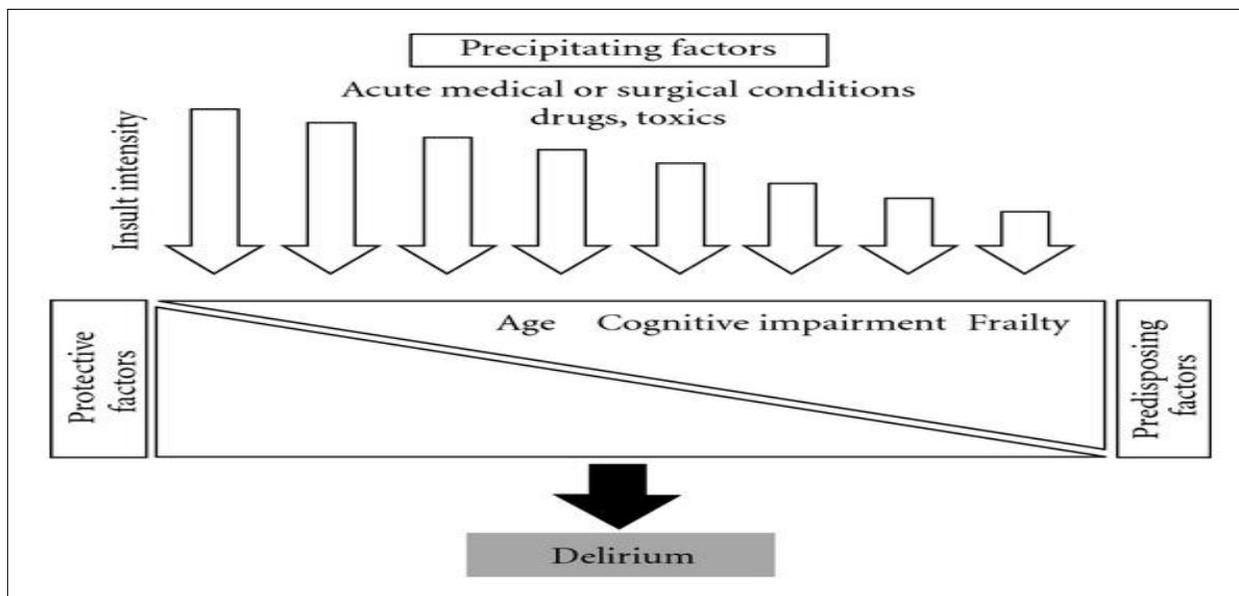


Figure 1. Precipitating factors of delirium.

**ASSESSMENT [6]**

- History including presenting complaints, duration of onset collateral history
- Vital signs-HR, BP, temperature, BM, look for signs of pain
- Thorough physical examination-cardiac, pulmonary and neurological examination
- Check the hydration status
- Rule out infected pressure sores, fecal impaction, urinary retention
- Complete blood count, CMP, TFT, vitamin B12, drug levels if indicated, toxicology, urine culture and sensitivity, ECG, CXR, EEG, CT/MRI brain scan, CSF analysis (if warranted)
- Assessment tools: 4AT (rapid assessment tools), CAM ICU (confusion assessment method), delirium rating scale (DRS), single question in delirium (SQiD)

**MANAGEMENT [7]**

- Identify the underlying cause and treat it.
- Review the medications and drug interactions
- Monitor the vital signs and intake and output
- Non-pharmacological interventions
- Pharmacological interventions where ever indicated

**NON PHARMACOLOGICAL MANAGEMENT**

- Engage family and care givers
- Avoid physical restraint if possible
- Reorientation using calendars, clocks, one to one interaction
- Correct sensory impairment e.g. using specs, hearing aid
- Maintain continuity of care
- Maintain mobility following falls risk assessment
- Ensure adequate analgesia
- Maintain good sleep pattern and adequate hydration

**PHARMACOLOGICAL MANAGEMENT**

- Treat underlying physical health cause-pneumonia, AKI, constipation, other causes
- Antipsychotics used cautiously at the lowest possible dose and for a short duration in treating agitation and psychotic symptoms in delirium

- Haloperidol commonly prescribed. Second generation antipsychotics like quetiapine, olanzapine, risperidone could be used. Baseline ECG mandatory.
- Agitation associated with alcohol withdrawal or sedative hypnotic withdrawal-BZD treatment of choice. Follow local guidelines for BZD sliding scale.
- Review of 7 trials of acetyl cholinesterase inhibitors-5 studies showed it is not beneficial in preventing or managing delirium.
- Melatonin may be useful in prevention and management of Delirium.

**PREDICTORS OF POOR OUTCOME IN DELIRIUM [8]**

- Longer duration of the delirium episode
- Severity of delirium
- Subtype of delirium-hypoactive
- Pre-existing psychiatric morbidity like dementia, depression

**CONCLUSION**

Delirium is a medical emergency, it is a complex neuropsychiatric syndrome caused by physiological cause of an underlying medical condition. It is associated with high morbidity and mortality. Recognizing delirium and treating the underlying cause is imperative in the management of the condition.

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