# Best Practices in Delirium Prevention and Management

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#### Disclosures

I have no disclosures or conflicts of interest to report

#### Introduction

- Most common neuropsychiatric syndrome in medically hospitalized patients
- Risk Factors
  - Age Cognitive impairment
  - Illness severity

  - Visual impairmentUrinary catheterization
  - Nutritional deficiency
  - · Length of hospital stay
- Long-term sequelae

## Recognition of Delirium

- Disturbance of consciousness
- Inattention
- Cognitive deficits
- Disturbance of sleep-wake cycle
- Psychotic symptoms
- Psychomotor symptoms
- Time course: acute onset, fluctuating cognition

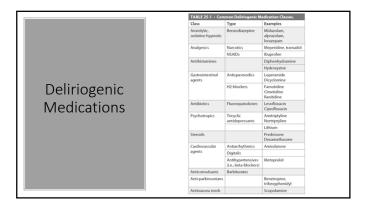
#### Clinical Evaluation/Assessment Tools

- Gold standard: careful clinical assessment
  - · Acuity of mental status changes · Previous h/o delirium or cognitive impairment

  - Precipitating factors
- Screening Tools:
  - Confusion Assessment Method (CAM)
  - Confusion Assessment Method for the Intensive Care unit (CAM-ICU)
  - Intensive Care Delirium Screening Checklist (ICDSC)
  - Delirium Rating Scale-Revised 98 (DRS-R-98)

## **Etiologies**

- Medication effect
- Electrolyte disturbances
- Infection
- Reduced sensory input
- Intracranial disorders



## Medical Workup

- Based upon clinical history and physical examination
- CBC, electrolytes, BUN/Cr, liver enzymes, urinalysis, CXR, EKG
- Brain imaging?
- EEG?

## Treatment Management: Antipsychotics

- Most common class for management of symptoms
- Controversial

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- Not been shown to:
- Impact delirium incidence, duration, severity of hospital length of stay • Lack data on patient-centered measures:
  - · Effects on psychotic symptoms, emotional distress, long-term functional outcomes

## Management: Antipsychotics

- Target symptoms:
   Insomnia
   Hallucinations
   Paranoia
   Delusions
   Posychomotor agitation
   No one superior agent
   Optimization of pharmacodynamics
   Consideration of side effect profile
   Available route of administration
   Serious medical risks

- Serious medical risks
   Prolonged QTc interval
   Extrapyramidal symptoms
   Neuroleptic Malignant Syndrome (NMS)
- Clear plan for taper or discontinuation prior to discharge

Antipsychotic	Route	Half-Life	Starting Dose	Maximum Daily Dose	Special Considerations
Haloperidol	PO, IV, IM	14-30 hours	0.5-1 mg BID	Upper limit has not been established	Minimal effect on vital signs; higher EPS risk
Quetiapine	PO	6-7 hours	12.5-25 mg BID	800 mg	Less likely to affect motor symptoms of Parkinson's; sedating
Risperidone	PO, ODT	20-30 hours	0.5 mg BID PRN	8 mg	Dose adjusted for renal dysfunction
Olanzapine	PO, ODT, IM	30 hours	2.5-5 mg BID	20 mg	Avoid in patients receiving parenteral benzodiazepines; has antiemetic properties; sedating

## Management: Non-Antipsychotics

- Benzodiazepines
- Dexmedetomidine
- Clonidine
- Antiepileptic agents

#### **Delirium Prevention**

- Behavioral interventions
  - Regulation of sleep/wake cycle
    Early mobilization
    - · Early mobilizat
- Pharmacologic interventions
   Prophylactic Antipsychotics?
  - Sleep aids

#### ORIGINAL ARTICLE

#### Low-Dose Nocturnal Dexmedetomidine Prevents ICU Delirium A Randomized, Placebo-controlled Trial

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### **Delirium Misconceptions**

- Patient is Oriented x 3=Not Delirious
- We Expect Old and/or Sick Patients to Get Confused at Times
- Delirium Always Resolves
- Delirium is Due to a Psychiatric Cause
- Delirium Treatment Should Always Include Antipsychotic Medications
- It is Best to Let Quiet Patients Rest
- Patients in the ICU are Expected to Become Delirious

## Case Example

- 76 yo man with no past psychiatric history (including no substance use history) and h/o metastatic lung adenocarcinoma, HTN, HL p/w SOB, fever—found to have PNA. On hospital day 2, the patient develops restlessness, visual hallucinations and is pulling out IV line.
- Which of the following is the best choice for management of symptoms of delirium?
  - A. lorazepam 2 mg IM x 1
  - · B. trazodone 25 mg q4 PRN
  - C. olanzapine 2.5 mg BID
  - D. behavioral interventions only

#### Case Example--Answer

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#### Question 1

- Which of the following symptoms is a reasonable treatment target if using antipsychotics for delirium?
  - A. Disorientation
  - B. Decreased level of consciousness
  - C. Memory Impairment
  - D. Hallucinations

#### Question 1--Answer

- Which of the following symptoms is a reasonable treatment target if using antipsychotics for delirium?
  - A. Disorientation
  - B. Decreased level of consciousness
  - · C. Memory Impairment
  - D. Hallucinations
- Antipsychotics have not been shown to improve disorientation, level of consciousness or memory impairment in delirium. Antipsychotics CAN be helpful for decreasing hallucinations.

#### Question 2

- Which of the following statements about the clinical features of delirium is true?
  - · A. Mental status changes are gradual and develop over months to years
  - B. The symptoms are the direct consequence of another medical condition, substance intoxication or withdrawal
  - C. Psychotic symptoms are required to make the diagnosis
  - D. Mental status changes are stable throughout the duration of delirium

#### **Question 2--Answer**

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  - D. Mental status changes are stable throughout the duration of delirium
- Mental status changes occur acutely in delirium and wax and wane. Psychotic symptoms may be present but are not required to make the diagnosis. The mental status changes seen in delirium are the consequence of an underlying toxic or medical condition.

## **Key Points**

- Delirium is an acute confusional state always caused by an underlying physiological disturbance(s).
- Newly diagnosed delirium is a neuropsychiatric emergency, as it can signal an underlying life-threatening illness.
- Clinical assessment is the gold standard for the diagnosis of delirium and a high index of suspicion is required. Standardized screening tools can be helpful for detection and monitoring.
- The definitive treatment of delirium is the identification and treatment of the underlying medical illness.
- · Behavioral interventions are most indicated for prevention and management of delirium. There are no FDA-approved medications for the treatment of delirium, however antipsychotics are commonly used to manage dangerous hyperactive or psychotic symptoms. Non-antipsychotic alternatives include alpha agonists and antiepileptic agents.