Delirium

A Plan to Reduce Use of Restraints

David Wensel DO, FAAHPM
Medical Director Midland Care
Objectives

- Define delirium
- Describe pathophysiology of delirium
- Understand most common etiologies
- Define how to diagnose delirium
- Report how to evaluate delirium
- Describe how to treat delirium
Delirium

- A disturbance in consciousness with reduced ability to focus, sustain, or shift attention
- A change in cognition that is not better accounted for by dementia
- A disturbance that develops over hours to days and fluctuates during coarse
Delirium

- Evidence that the disturbance is caused by consequences of general medical condition
Delirium Types

- Hyperactive
- Hypoactive
- Mixed
Delirium Signs

- Alterations in sleep-awake cycle
- Short and Long term memory deficits
- Delusions
- Hallucinations
- Emotional Lability
The Cost of Delirium

- It’s presence is a predictor for:
  - Increase Mortality
  - Increase Morbidity
  - Longer Hospitalization
  - Discharge to a Nursing Facility
Theories of Delirium Pathophysiology

- Decreased Oxidative Metabolism
- Direct effect on neurotransmitters (<ACTH, >DA, 5HT3, NE, GABA)
- Neurotransmitter changes with aging
- Increased inflammatory cytokines
- Stress reactions
Theories of Delirium Pathophysiology

- Changes in interneuron signal transduction
- Decreased cholinergic activity
Theories of Delirium Pathophysiology

- Anticholinergic Neurotransmitters are involved in:
  - Arousal, learning and memory, REM sleep, behavior, mood, thought, perception, and orientation
- Serum Anticholinergic levels correlate well with severity of delirium
Delirium Etiology

- Metabolic disturbances
- Organ failure
- Medications
- Sepsis
- Brain Pathology
- Withdrawal from alcohol, or benzos
- Hematologic
Delirium Precipitating Factors

- The use of restraints
- Malnutrition (Alb <3.0)
- Addition of more than 3 medications
- Use of bladder catheter
- Iatrogenic events
Delirium in Cancer Patients

- 1/3 had cognitive dysfunction
- Related to Opioid dose of 400mg of morphine equivalents per day
- Older age
- Karnofsky score
- Lung Cancer with short time from diagnosis
- No Breakthrough pain medication
Delirium Diagnosis

- Often under recognized or misdiagnosed
- Memorial Delirium Assemeessment Scale
- Delirium Rating Scale
- Confusion Assessment Method
Confusion Assessment Method

- Most researched and convenient
- Validated in palliative care populations
- Takes around 5 minutes to complete
Confusion Assessment Method

- Feature 1: Acute onset with fluctuating coarse.
- Feature 2: Inattention, is the patient easily distracted.
- Feature 3: Disorganized or incoherent thinking
- Feature 4: Altered LOC
Confusion Assessment Method

- Requires the presence of acute onset with fluctuating coarse, and inattention
- Can have either disorganized thinking or altered level of consciousness
Delirium

- It is key to differentiate dementia from delirium
- Delirium has a sudden onset
- Dementia has a slow progressive decline
- An acute behavior change is most likely delirium even in the setting of dementia
Delirium Impact

- Associated with prolonged hospitalization
- Increased Mortality: Median survival of 21 days vs. 39 days
- More likely to discharge to long term care facility
- Prolonged impact on function
- Increased depression and anxiety
Delirium Impact

- 30% if older hospitalized patients experience delirium
- Among older surgical patients the rate of delirium is between 10% and 50%
- Associated with older frail patients and very complex surgeries
Delirium

- Terminal Delirium is seen in at least 88% of dying patients
- Treatment may involve sedation
- 5 themes have been identified
- Perception of suffering, Lack of communication, Ambivalence of caregivers, A need for information, Dignity and Respect
Delirium Evaluation

- Determine Goals of Care
- Look for medications
- Consider Withdrawal of aggressive care
- Identify metabolic and hematologic abnormalities
- Look for infections
- Consider specialized testing if appropriate
Delirium Treatment

- Manage the causes when possible
- Opioid rotations
- Remove medications that contribute
- Manage dehydration
- Treat hypercalcemia
Delirium Treatment

- There are no FDA approved medications for the treatment of delirium
- Antipsychotics are commonly used in ICU’s
- Haloperidol is the most common
- A Cochrane review stated there are inadequate data to make any conclusions
Delirium Treatment

- First significant study compared haloperidol, chlorpromazine, and lorazepam in 30 Aids patients with delirium
- No difference between haloperidol or chlorpromazine
- The lorazepam arm was stopped due to toxicity and worsening delirium
Delirium Treatment

- Quetiapine is the only antipsychotic that has been compared to placebo
- Quetiapine 25mg as starting dose with 175mg max
- Improvement occurred 57% faster in the quetiapine group
Delirium Treatment

- A second study with quetiapine in ICU patients showed
- Shorter time to resolution was found
- One day vs. 4.5 days with placebo
Delirium Treatment

- Atypical Antipsychotics have also been compared
- Haloperidol, Risperidone, Olanzapine, and Aripiprazole
- No statistically significant difference was seen
- One study with higher doses of Haloperidol did show some improvement
Delirium Treatment

- Disadvantage of atypical antipsychotics is they only come in oral or intramuscular forms
- Olanzapine has been used subcutaneously without reaction
Delirium Treatment

- The role of benzodiazepines is unclear
- They are the drug of choice for withdrawal
- In the study comparing them to antipsychotics they were stopped because patients became worse
- A Cochrane review concluded they could not be recommended for delirium
Delirium Treatment

- Treatment of hypoactive delirium is controversial.
- American Psychiatric Association guidelines do not comment about this.
- Most studies are confined to hyperactive delirium.
Delirium Treatment Recommendations

- Haloperidol is the most cost effective option
- The atypical antipsychotics are no better than haloperidol
- The atypical antipsychotics are more expensive to use
- Reasonable starting doses: 0.5 to 2 mg with hourly monitoring
Delirium Treatment

- In the setting of terminal delirium sedation may be required
- Delirium can be very distressing to a family
- Midazolam and Lorazepam are the most common medications used
- Chlorpromazine has also been used
- No comparison trials have been done
Delirium Treatment

- Notice we have not talked at all about restraints
- Physical Restraints have clearly been shown to increase delirium
- They also lead to worse outcomes
- Bottom line is don’t use them unless patient is at great risk to themselves or others
Delirium Treatment

- A better strategy is constant observation
- Move patient to a room closer to nurse station
- Use in room sitter if needed
Delirium Outcomes

- Signs of delirium may persist for up to 12 months in the setting of dementia.
- After 2 years only 1/3 of elderly patients with delirium lived independently.
- It is a harbinger of future problems in frail elderly.
- 6 month mortality is 14% to 22%.
Delirium Outcomes

- Protracted delirium is associated with much higher 6 and 12 month mortality
- Delirium in patients who also have dementia is associated with a faster rate of cognitive decline
- Delirium may require weeks or even months to resolve
Delirium Bibliography

Delirium Bibliography