The Medical Speech-Language Pathologist’s Role in Delirium

Presented By: Jessica Lasky, M.S., CCC-SLP
Agenda

- Introduction and bio
- Assessments for delirium
- Treatment for delirium
- Patient/family education for delirium
- Question and Answer session
Disclosure Statements

Presenter: Jessica Lasky, M.S., CCC-SLP

• Financial:
  • Receives payment from LSHA for this presentation.
  • Honor Health – salary
  • Mobile Scope, PLLC – ownership interest and salary
  • Elite Speech Pathology - salary

• Nonfinancial:
  • No relevant non-financial disclosures.
Learner Objectives

• After watching this presentation, the participant will be able to:

1. Identify 3 types of delirium
2. Identify 3 different screening tools for delirium
3. Describe patient/family education on delirium
4. Describe the SLPs role in identification and treatment of delirium
A Little About Me...

- I’m a medical SLP who works in a trauma-1 hospital in Phoenix Arizona.
- I also own a mobile FEES company which services the greater Phoenix region.
- When I’m not at my hospital, I work at a neuro-rehab facility and provide general education through a SLP journal club that I started.
- I LOVE to travel and am a huge fan of attending CEU conferences and feel like I’m constantly striving to learn more things that I can use to help my patients.

Jessica Lasky, M.S., CCC-SLP
What is delirium

• Delirium was first used as a medical term as early as the first century AD to describe mental disorders occurring during fever or head trauma.

• Since then, there have been many terms that have emerged to describe delirium such as “acute confusional state”, “acute brain syndrome”, “acute cerebral insufficiency” and “toxic-metabolic encephalopathy”, but delirium is becoming the most common standard term used for this syndrome.

• Delirium is not a disease but rather a collection of symptoms that are used to describe a transient, reversible syndrome that is acute and fluctuating and occurs in the setting of a medical condition.
What is delirium

- Delirium is an acute or sub-acute decline in cognition and attention that is a common and severe problem for hospitalized patients (and sometimes for patients in the skilled nursing facilities or their homes).
- Delirium may cause people to appear confused and disoriented, or to have difficulties maintaining focus, thinking clearly, and remembering daily events. It is likely to fluctuate over the course of a hospital stay.
- Delirium can cause perceptual impairments such as illusions, hallucinations or delusions.
What is delirium

• Delirium can often be traced to one or more underlying etiologies such as:
  • Severe or chronic illness (worsening of liver or lung disease)
  • Acute onset of illness (CVA, trauma)
  • Changes in metabolic balance (such as low sodium),
  • Medications (opiates, sleep medications, benzodiazepines, antihistamines, sedatives, tricyclics, corticosteroids, PD meds, etc)
  • Infection
  • Surgery
  • Alcohol or drug withdrawal
  • Complications from a fall
Pathophysiology of delirium

• Our understanding of the underlying etiology of delirium remains poorly understood. Some current theories include neuroinflammation, cholinergic deficiency, neurotransmitter imbalance, and chronic stress.
What are the symptoms of delirium?

• The cardinal features of delirium are recent onset of fluctuating consciousness and thinking, poor ability to focus or pay attention, impaired ability to remember new and old information.

• Additional symptoms may include hallucinations and impaired sleep-wake cycles.

• These symptoms develop over a short period of time (hours to days) and tend to become intermittently worse, especially in the afternoon or evening.

• There may be periods of time when the patient has no symptoms.
What are the symptoms of delirium?

- A patient may have reduced awareness of their environment resulting in:
  - An inability to stay focused on simple conversation
  - Perseverating on an idea rather than responding to questions or conversation
  - Being easily distracted by unimportant things
  - Being withdrawn

- A patient may have behavior changes may include:
  - Seeing/Hearing things that don't exist (hallucinations)
  - Restlessness, agitation or combative behavior
  - Calling out, moaning or making other sounds
  - Being quiet and withdrawn
  - Slowed movement or lethargy
  - Disturbed sleep habits such as reversal of night-day sleep-wake cycle

- A patient may have poor thinking skills (cognitive impairment) including:
  - Poor memory, particularly of recent events
  - Disorientation
  - Difficulty speaking or recalling words
  - Rambling or nonsense speech
  - Trouble understanding speech
  - Difficulty reading or writing

- A patient may have emotional disturbances such as:
  - Anxiety, fear or paranoia
  - Depression
  - Irritability or anger
  - Euphoria
  - Apathy
  - Rapid and unpredictable mood shifts
  - Personality changes
Subtype 1: Hyperactive Delirium

• This is probably the most easily recognized type
• It may include restlessness, agitation, hyper vigilance, rapid mood changes or hallucinations/delusions, and refusal to cooperate with care.
Subtype 2: Hypoactive Delirium

• Has features of lethargy and sedation as well as reduced motor activity.

• Often, these patients will respond slowly to questioning and show little spontaneous movement. They may appear sluggish or abnormally drowsy (seemingly in a daze).

• This delirium type occurs most frequently in elderly patients, and these patients are frequently overlooked or misdiagnosed as having depression or a form of dementia.
Subtype 3: Mixed Delirium

• Mixed delirium: Has features of both hyperactive and hypoactive delirium.

• These patients may quickly switch back and forth from hyperactive to hypoactive states.
Risks for delirium

- Being an older adult (65+)
- Being male
- Psychological hx (depression, anxiety, etc)
- Neuro hx (Parkinson Disease, CVA, dementia, epilepsy, etc)
- Baseline cognitive impairments
- Previous delirium episode
- Frequent UTIs
- Visual or hearing impairment
- History of multiple medical conditions
- An acute trauma involving a hospital stay
- Being a resident in a nursing home
- Malnutrition
- Dehydration
- Frequent falls
Statistic about delirium

- Only 12% to 35% of delirium cases are recognized.

- Delirium is more common in the elderly population. It's the most common surgical complication in elderly adults with an incidence reported of 15% - 25% after major elective surgery and 50% after high-risk procedures (hip-fracture or cardiac sx)
Statistic about delirium

• 1/3 of general medical patients who are 70+ years of age have delirium. Delirium is present in ½ of these patients on admission to the hospital and delirium develops during hospitalization in the other half.

• Mortality is strongly correlated to accuracy of diagnosis. A misdiagnosis or missed diagnosis of delirium can translate into mortality increased from 10%-36%, and a 70% increased risk of death during the first 6 months after a hospitalization.
Statistics about delirium

• The prevalence of delirium in older adults with dementia is estimated between 13% and 19% in the community to more than 40% in the hospital.

• Patients who develop delirium in the ICU have a 2-4x increased risk of death after discharge from the hospital. Patients on general medical or geriatric units have 1.5x increased risk for death in a year following discharge from the hospital.
Statistics about delirium

- Delirium associated costs exceed $160 billion per year in the United States alone!!!!!

- Only 4% of patients discharged from the hospital will have delirium that has resolved. Meaning IRF, SNF and HH services will be affected.
Long term effects

• The degree of recovery depends to some extent on the health and mental status before the onset of delirium. Patients with dementia may experience a significant overall decline in memory and thinking skills that are permanent.

• Patients with other serious, chronic or terminal illnesses may not go back to PLOF that they had before the onset of delirium.

• Delirium in seriously ill people or people s/p trauma is also more likely to lead to:
  • General decline in health
  • Poor recovery from surgery
  • Need for institutional care
  • Increased risk of death
Long term effects

• Long term cognitive impairments/decline, PTSD, and persistent delirium
• Inability to return to the same level of care at d/c
• Approximately 1/3 of patient’s who develop delirium will not return to baseline
• Dementia, length of stay, death and new admission to LTC are all significant consequences of delirium.
Preventing delirium

• The most successful approach to preventing delirium is to target risk factors that might trigger an episode (though some things cannot be changed such as a neurodegenerative process etc).

• Hospitals/SNF/IRFs are especially challenging secondary to:
  • frequent room changes
  • multiple patients to room
  • invasive procedures
  • new lines (O2, IVs, etc)
  • noisy environments
  • poor lighting / a lack of natural light
  • poor sleeping (day/night) patterns which can naturally increase confusion
Preventing Delirium

• Make sure a patient has their glasses, hearing aids and dentures!!!!
• Promote good/healthy sleep habits (bed time / wake-up times)
• Help patients remain calm and well-oriented (consider white-boards with day/date/POC)
• Have back-lit clocks in every room (consider even bedside clocks that project the time with AM/PM onto the ceiling)
Preventing Delirium

• Advocate for patients to be near a window or go outside at least 1x/day
• Have family bring in familiar items to have in a patients room (pictures, blankets, etc)
• Stick to a routine and list out the POC for the day in patients room
Preventing delirium

• Try to match patient’s baseline routine (morning bird or night owl; watching Jeopardy; etc)

• Consider having MD/pharmacist frequently checking medications for any that may increase delirium. (consider having a geriatrician look at the meds for 65+ yo patients)

• ***Remember, once the patient is delirious there is no reversing it.
Screening tools for delirium identification

• Richmond agitation and sedation scale (RASS)
  • It is used to assess sedation and agitation of adult patients admitted in ICUs.
  • It is a 10-point scale with 4 levels of anxiety or agitation (+1 to +4), one level to denote a calm and alert state (0) and 5 levels to assess the level of sedation (-1 to -5).
    • A score of +4 indicates that patient overtly combative or violent and is immediate danger to staff.
    • A score of -4 indicates that the patient is unresponsive to verbal stimulation and finally, culminating in unarousable states (-5).
  • So in essence a score of 0 is normal and negative scores are indicative of a sedated patient and positive scores are indicative of an agitated patient.
Screening tools for delirium identification

• NEECHAM confusion scale
  • The NEECHAM is a screening scale which can be used by RNs to rate a patient’s behavior while performing routine care tasks.
  • The scale has 3 subscales:
    • Subscale 1 measures cognitive processing and the rating produces a score of 0-14.
    • Subscale 2 measures behavior and the rating provides a score from 0-10.
    • Subscale 3 measures physiological parameters with a score of 0-6.
      • Scores range from 0-30
      • A score of 20 or below indicates moderate-severe delirium
      • A score of 20-24 indicates mild or early development of delirium
      • A score of 25-26 suggests the patient is “not delirious” but the patient remains at risk for delirium
      • A score of 27-30 is normal.
  • This screening takes 10 minutes to complete and has a high inter-rater reliability, good validity, and high sensitivity and specificity.
Screening tools for delirium identification

• DELIRIUM RATING SCALE-REVISED-98 (DRS-R-98)
  • DRS-R-98 is an instrument which has provision for assessment of broad range of symptoms of delirium.
  • It is a 16 item assessment; 13 of which assess the severity of symptoms and 3 items are of diagnostic significance.
  • This assessment looks at the prior 24-hour period
  • The severity ratings range from 0-3 (0=no impairment and 3= severe impairment) and the severity score ranges from >15 or a total score of 18 indicating delirium with any higher scores indicating the severity of the delirium.
  • The DRS-R-98 total score distinguishes delirium from dementia, schizophrenia, depression, and other medical illnesses during blind rating, with sensitivity ranging from 91% to 100%, depending on the cut-off score chosen.
Screening tools for delirium identification

• Confusion assessment method (CAM)

• CAM is a diagnostic instrument for identification of delirium.
  • The instrument assesses the presence, severity, and fluctuation of 9 delirium features: acute onset, inattention, disorganized thinking, altered level of consciousness, disorientation, memory impairment, perceptual disturbances, psychomotor agitation or retardation, and altered sleep-wake cycle.
  • It can be administered in 5 min by non-psychiatrist physicians.
  • For dx of delirium a patient must have the presence of acute onset and fluctuating discourse AND inattention AND EITHER disorganized thinking or altered level of consciousness.
  • Based on the pooled data of 7 high quality studies, CAM has been shown to have high concurrent validity with psychiatrist’s diagnosis with a sensitivity of 94%, specificity of 89% and high inter-rater reliability. It was also shown to have high concurrent validity with psychiatrist’s diagnosis with a sensitivity of 94% and specificity of 89% and high inter-rater reliability.
Assessment of cognitive symptoms of delirium

• Clock drawing test - There are many scoring systems of varying degrees of complexity available in the literature most of which have been reported excellent psychometric properties of CDT

• Short portable mental status questionnaire - It is a brief, objective, and quantitative measurement of cognitive functioning of elderly people. It has 10 items which assess orientation in time and place, remote memory, and general knowledge.

• Digit span test - It involves presentation of a series of random numbers that are presented at a rate of 1 number per second and after the patient is asked to repeat the presented sequence. The first series involves presentation of 2-number sequence and if the patient answers the same correctly, then the next series is that of 3-number sequence and subsequently each correctly repeated series is followed by a sequence with 1 additional digit. A digit span of less than 5 is considered to be abnormal
Assessment of cognitive symptoms of delirium

• Vigilance “A” test - In this test a list of 60 letters of which 18 are the letter A is read to the patient at a rate of 1 letter per second. The patient is instructed to indicate to the examiner every time the letter A is heard. Only 2 errors are acceptable and more than 2 errors are considered abnormal

• Cognitive test for delirium - CTD is designed to assess hospitalized patient with delirium, particularly if they are intubated or unable to speak/write. It reliably differentiates delirium from other neuropsychiatric conditions like dementia, schizophrenia and depression. It covers 5 neuropsychological domains (orientation, attention, memory, comprehension and vigilance) and lays more emphasis on nonverbal (visual and auditory) modalities.
Treatment

• Treatment for delirium is based on non-pharmacologic interventions as there aren’t any medications that are FDA-approved. There are modifiable factors such as medication (having a MD/pharmacist review med lists frequently), infection control, environmental factors, and encouraging reduced sensory input (overstimulation) are the cornerstones of management for delirium.

• It's very important to note that there is no current evidence to support the use of pharmacological intervention in patients without hyperactive delirium. Pharmacological intervention should be used sparingly for those with hyperactive delirium and only when the patient is endangering themselves and others.

• For patients who are intubated advocate for sedation vacations.
  • SPEACS
The SLPs role in delirium

• SLPs should consider creating family education programs, being on delirium prevention committees, and providing staff education.
• The SLP can be involved in Meta-Cognitive Awareness Training, or helping a patient gain insight into their impairments with training in self-monitoring of actions/ADLs.
• Look at establishing ICU or rehab diaries that staff write in as well as patients.
  • Diary studies in the UK and at Johns Hopkins Hospital
Family education

• Helping families understand the risk factors and causes of delirium can assist the entire health care team in managing delirium.

• Make sure to talk with family and caregivers early on and often. Educate them on tips for preventing delirium (see slides).

• Consider creating brochures / handouts for patients and families to have bedside and refer to. Remember to use large font and lower level vocabulary.

• Try to involve family and caregivers in the care of patient and listen to what they have to say!
Questions?
References:


References:


