

Otterbein University

Digital Commons @ Otterbein

Nursing Student Class Projects (Formerly MSN)

Student Research & Creative Work

Summer 8-8-2021

Delirium

Angela Lee

lee11@otterbein.edu

Follow this and additional works at: https://digitalcommons.otterbein.edu/stu_msn



Part of the [Critical Care Nursing Commons](#), and the [Psychiatric and Mental Health Nursing Commons](#)

Recommended Citation

Lee, Angela, "Delirium" (2021). *Nursing Student Class Projects (Formerly MSN)*. 471.
https://digitalcommons.otterbein.edu/stu_msn/471

This Project is brought to you for free and open access by the Student Research & Creative Work at Digital Commons @ Otterbein. It has been accepted for inclusion in Nursing Student Class Projects (Formerly MSN) by an authorized administrator of Digital Commons @ Otterbein. For more information, please contact digitalcommons07@otterbein.edu.

Delirium

Angela Lee CCRN, BSN, RN
Otterbein University, Westerville, Ohio

What is your topic?

Delirium

A syndrome characterized by the acute onset of a combination of disturbance of consciousness and change in cognition over a short period of time (American Psychiatric Association, 2013; Arumugam et al., 2017; Wilson et al., 2020).

Why Delirium?

- Delirium is a severe neurocognitive syndrome presenting with altered attention and arousal, and symptoms of psychosis (American Psychiatric Association, 2013; Wilson et al., 2020).
- Symptoms associated with delirium vary from patient to patient, but often lead to distress and changes in cognitive functioning (Arumugam et al., 2017).
- In the intensive care unit setting, delirium may be caused by various factors and may persist for weeks to months (Wilson et al., 2020).
- Delirium is found to be more prevalent in the hospitalized adult population (Gibb et al., 2020; Wilson et al., 2020; Marcantonio, 2017; Smith et al., 2017; Watt et al., 2018):
 - Average prevalence of 23%
 - Prevalence of >20% in patients undergoing major high-risk and emergency surgery
 - High prevalence of 50-70% in mechanically ventilated patients in the adult critical care population

Signs & Symptoms

- Sudden acute change in attention and cognition without evidence of pre-existing neurological or cognitive conditions or disorders (Wilson et al., 2020)
- Decreased responsiveness and arousal (Wilson et al., 2020)
- Severe agitation or hyper-vigilance (Wilson et al., 2020)
- Hallucinations or delusions (Wilson et al., 2020)
- Altered mood and psychosis (Wilson et al., 2020)
- Decreased mental functioning (Wilson et al., 2020)
- Acute confusion (Slooter et al., 2020)

Underlying Pathophysiology

- There are multiple causes of delirium. The most common causes are (Girard et al., 2018):
 - Hypoxia
 - Inflammation
 - Hypoglycemia
 - Sedation use
 - Anticholinergic use
- Delirium may be triggered by multiple stressors. The most common stressors are (Wilson et al., 2020):
 - Sepsis
 - Stroke
 - Severe shock states
- The development of delirium is credited towards evidence of the brain's inability to adapt to acute stressors which results in (Wilson et al., 2020):
 - Inflammatory changes in the brain
 - Changes in the development of glial cells
 - Changes in the vasculature of the brain

Risk Factors

- The risk of developing delirium may also be contributed to predisposing factors (Velayati et al., 2019; Persico et al., 2018; Wilson et al., 2020):
 - Advanced age, impairments in cognition (ex. dementia, cognitive delay, developmental delay)
 - Degree of cognitive impairment
 - Illicit/recreational drug use
 - Acute injury, nutritional deficits (ex. frailty)
 - Major organ disease
 - Mental health impairments
 - Alcohol use
 - Multiple comorbidities
 - Vision and hearing impairments
 - Depression or other mental health disorders
 - History of delirium

Significance

- If left untreated, delirium may lead to long-term cognitive consequences.
- After the occurrence of delirium, cognitive deficits is comparable to the deficits found after traumatic brain injury, Alzheimer's disease, and dementia in the elderly (Marcantonio, 2017; Persico et al., 2018).
- In critical care patients who experience delirium, increased axonal injury and atrophy of the hippocampus occurs in the brain (Wilson et al., 2020).
- The brain requires significant oxygen requirements and proper oxygenation of the brain may decrease incidence of risk factors leading to the development of delirium (Wilson et al., 2020).

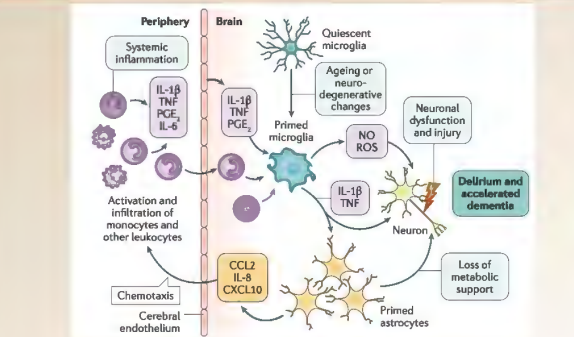


Figure 1: The activation of inflammatory mediators may be associated with the development of delirium (Wilson et al., 2020).

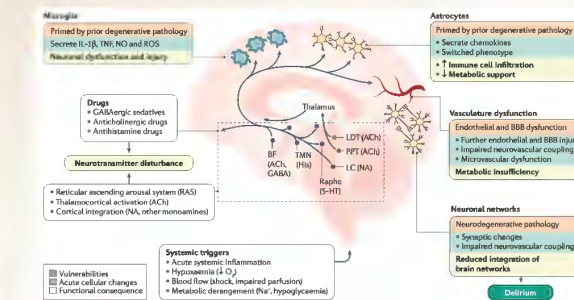


Figure 2: The common theory of the pathophysiology of involves alteration of function in the arousal system in the development of delirium (Wilson et al., 2020).

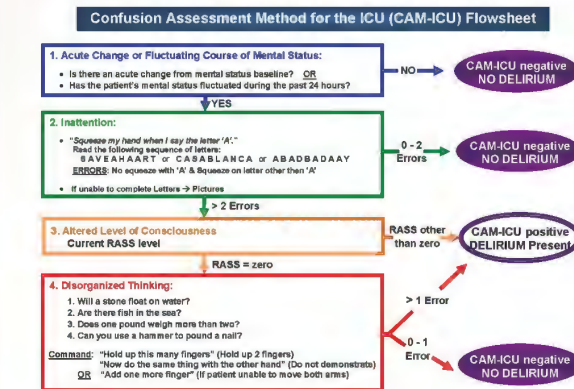


Figure 3: The Confusion Assessment Method - Intensive Care Unit (CAM-ICU) tool is a common assessment tool used to screen for delirium (Vyveganathan et al., 2019).

Treatment

- Treatment of delirium is approached through a multimodal method. Treatment of delirium is completed through addressing the symptoms associated with delirium (Wilson et al., 2020).
- Treatment can be divided into non-pharmacological and pharmacological (Slooter et al., 2020)
- A non-pharmacological approach is the use of the ABCDEF bundle (Wilson et al., 2020):
 - A (assess, prevent and manage pain)
 - B (Spontaneous /breathing trials)
 - C (sedation /analgesia)
 - D (assess, prevent and manage delirium)
 - E (early mobility)
 - F (family engagement)
- Pharmacological is found to be more effective in the management of delirium in the intensive care setting as compared to non-pharmacological methods (Arumugam et al., 2017; Slooter et al., 2020):
 - Haloperidol (Haldol)
 - Second-generation atypical antipsychotics (ex. Ziprasidone/Geodon, Olanzapine/Zyprexa, Risperidone/Risperidal, Quetiapine/Seroquel)

Complications

- The duration of delirium is often associated with a decreased in quality of life as a result of impairments to cognitive function (Wilson et al., 2020).
- Short-term effects resulting from changes in cognition include (Wilson et al., 2020):
 - Falls
 - Aspiration pneumonia
 - Distress
- Long-term effects resulting from changes in cognition include (Wilson et al., 2020):
 - Functional disability
 - Worsening mental health
 - Significant neurocognitive function

Nursing Considerations

- Management of delirium is addressed by considering multiple triggers leading to the development of the syndrome (Scottish Intercollegiate Guidelines Network, 2019):
 - Early identification and proper assessment of delirium
 - Correction of psychological disturbances and triggers
 - Treatment of symptoms associated with distress, anxiety, and pain
 - Effective communication with both non-ventilated and mechanically ventilated patients
 - Identification of risk factors associated with delirium
- Screening and diagnosis of delirium at the bedside is completed through a thorough bedside assessment and the use of standardized assessment tools (Vyveganathan et al., 2019).
- The bedside assessment includes an initial identification of the baseline cognitive and mental status of the patient and a second assessment focusing on fluctuations from baseline (Wilson et al., 2020).
- Commonly utilized tools for the assessment and identification of delirium include (Scottish Intercollegiate Guidelines Network, 2019; Vyveganathan et al., 2019):
 - Richmond Agitation Screening Scale (RASS) - assessment of level of arousal
 - Confusion Assessment Method - Intensive Care Unit (CAM-ICU) - assessment of delirium in critical care patients

Conclusion

- Early identification and proper assessment of the patient is vital to improving quality of life, minimizing development of delirium, preserving cognitive function, decreasing hospital length of stay, and improving overall outcomes.
- Using proper screening and assessment tools may improve accurate early identification of delirium (Jayaswal et al., 2019).
- Prevention of delirium through early identification and frequent patient assessments may result in a decrease in the incidence of the syndrome (Arumugam et al., 2017).

References

