Intensive Care Unit Delirium

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Delirium is described as a manifestation of acute brain injury and recognized as one of the most common complications in intensive care unit (ICU) patients. Although the causes of delirium vary widely among patients, delirium increases the risk of longer ICU and hospital length of stay, death, cost of care, and post-ICU cognitive impairment. Prevention and early detection are therefore crucial. However, the clinical approach toward delirium is not sufficiently aggressive, despite the condition’s high incidence and prevalence in the ICU setting. While the underlying pathophysiology of delirium is not fully understood, many risk factors have been suggested. As a way to improve delirium-related clinical outcome, high-risk patients can be identified. A valid and reliable bedside screening tool is also needed to detect the symptoms of delirium early. Delirium is commonly treated with medications, and haloperidol and atypical antipsychotics are commonly used as standard treatment options for ICU patients although their efficacy and safety have not been established. The approaches for the treatment of delirium should focus on identifying the underlying causes and reducing modifiable risk factors to promote early mobilization.

Key Words: critical care; delirium; intensive care units.

Introduction

Critically ill patients commonly experience anxiety disorder as a result of pain, invasive procedure, unfamiliar environment and fear of death. It is therefore important to distinguish delirium from anxiety before using anxiolytics because this medicine can worsen delirium/confusion status. Delirium is referred to by various terms, including acute confusion state, ICU psychosis, acute brain dysfunction and encephalopathy and characterized by disturbances of attention, orientation, memory and language, which are caused by a medical condition. In other words, delirium represents acute, fluctuating changes in mental status characterized by inattention, disorganized thinking and perceptual disturbance, whereas agitation is defined as extreme arousal, irritability and motor restlessness caused by discomfort and tension.

Although emphasis is being placed on prevention and early detection of delirium, the effort to identify and recognize delirium quickly is far from enough, and many cases of delirium are considered iatrogenic as a result. Given that delirium is a strong predictor of longer ICU and hospital stay, delirium is likely to increase spending for hospital care and risk of death, when it is overlooked in the hospital setting.[1,2] Critical care providers need to consider delirium an organic brain dysfunction and take more aggressive approach to delirium care because it can be serious as much as an organ system failure.[3]

The aim of the present article was to investigate the incidences of delirium in the ICU in Korea by reviewing related literature and the database of the 2013 American College of...
Definition

Delirium is defined as an acute onset and fluctuating course, inattention, impaired consciousness and disordered cognition, according to the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM). Hallucination or delusion is also observed in delirious patients, they are not required for diagnosis. The abovementioned symptoms are often accompanied by sleep disturbances, abnormal psychomotor activity and emotional disturbances.

Delirium is categorized into 3 subtypes: hyperactive, hypoactive and mixed type. Patients with hyperactive delirium are aggressive, agitated, hallucinating and deluded, showing increased psychomotor activity. Although agitation can occur with other brain and mental health such as dementia, schizophrenia and depression, agitated symptoms of delirious patients include acute onset, fluctuating course and early impaired consciousness. Patients with hypoactive delirium show reduced alertness, lethargy, decreased responsiveness, and slowed motor skills. Patients with mixed type delirium fluctuate between hyperactive and hypoactive delirium. Hypoactive delirium occurred more frequently showing the prevalence of 43-64%, whereas pure hyperactive delirium showed a prevalence of below 2%. The prevalence of hypoactive delirium was reported as high as 92% in the cardiac ICU. However, hypoactive delirium can be easily missed; more than 76% of total cases of hypoactive delirium were overlooked in the absence of a routine delirium screening. Because it usually occurs in the elderly patients, diagnosis is not feasible and prognosis is not favorable, calling for more aggressive approach for both diagnosis and treatment.

Incidence

Delirium incidence varies, depending on patients and the types of screening tool used. McNicoll et al reported 31% of ICU patients had delirium, and 70% of them developed delirium during hospital stay. The incidence and prevalence of delirium in patients intubated or ventilated ranged 54-82%. Pisani et al asserted that 70.4% of ICU patients developed delirium within 48 hours after admission.

Thus, the impact of delirium on ICU and hospital stay, duration of mechanical ventilation and mortality has been well documented. In particular, the duration of delirium was associated with an increase in mortality in a dose dependent fashion. Specifically, each day of delirium increases the likelihood of death by 10%. The duration of delirium is also considered an independent predictor of cognitive impairment after ICU admission. Because even one day of delirium can lead to poor clinical outcomes, preventive measures are critical, and early detection and aggressive symptom management are also important to reduce duration of delirium.

Risk Factors

The major risk factors for delirium include preexisting dementia, history of hypertension, alcoholism and high severity of illness at admission. Additional baseline risk factors can be smoking, living alone at home, the use of drains, tubes and catheters, the use of psychoactive medication, a preceding period of sedation, coma or mechanical ventilation. Environmental variables, including isolation, the absence of visit, the absence of visible daylight, a transfer from another ward, immobility, and the use of physical restraints, also increase the risk of developing delirium. Not to mention ICU-specific risk factors: underlying psychological stressors, mechanical ventilation, noise, light, patient care interactions and drug-induced sleep disruption and deprivation. Most of these environmental factors can be modified to reduce the risk of delirium. Age is also one of the significant risk factors not related to ICU, some studies included age as one of the ICU-related risk factors.

Exposures to sedative medications pose a risk to develop delirium in ICU patients, and benzodiazepines and dexmedetomidine have been identified as independent risk factors, although the latter showed a less significant association with delirium. To date, the evidence for the relationship between opioid and the development of de-