

Delirium in Critically Ill Patients



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KEYWORDS

• Delirium • Intensive care unit • Critically ill • Encephalopathy

KEY POINTS

- Delirium in the intensive care unit (ICU) is an extremely common and detrimental diagnosis, with a high incidence and effects including increases in mortality, longer duration of mechanical ventilation, and long-term cognitive dysfunction after discharge.
- There are trials suggesting that prophylaxis of postoperative delirium is possible with medications including haloperidol, atypical antipsychotics and ketamine; however, these trials are small and decisions should be made on a case-by-case basis.
- There are some promising studies, both pharmacologic and nonpharmacologic, for preventing delirium in nonoperative critically ill patients.
- Delirium is an acute mental disorder characterized by inattention, with varying causes, including medical illness and withdrawal from medications or substances.

INTRODUCTION

Delirium is an acute mental disorder characterized by inattention, with varying causes, including medical illness and withdrawal from medications or substances. Since the first use of the term delirium, researchers have used many different descriptors, such as intensive care unit (ICU) psychosis, ICU syndrome, encephalopathy, and even acute brain failure, to describe this condition.¹ In recent years, the critical care community has increasingly conformed to the term delirium, with the definition per the 4 criteria used in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) (**Box 1**).² It is generally accepted that not all 4 of these criteria need

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Box 1**Criteria used to define delirium based on DSM-5**

Disturbance in attention

Change in cognition

Development over a short interval and fluctuating course

Evidence from history, physical examination, or laboratory findings that the disturbance is a physiologic consequence of another medical condition, substance intoxication, or withdrawal

to be present to reach the diagnosis and that the severity and manifestations of delirium can vary significantly.³

EPIDEMIOLOGY AND SUBTYPES OF DELIRIUM

Delirium in the ICU is extremely common, with an incidence ranging between 45% and 87%.⁴⁻⁷ A study by Milbrandt and colleagues⁸ in 2004 evaluated the cost of delirium to the US health care system and estimated the economic burden to be \$4 to \$16 billion annually. This wide range in incidence and costs is likely caused by differences in prevalence estimates from different subspecialty ICUs (eg, surgical versus medical) as well as differing ICU populations with a variable severity of illness.⁷

Delirium is being increasingly recognized as a significant contributor to the morbidity and mortality of critically ill patients. Recent studies have shown an increase in total ventilator days, ICU length of stay, need for chemical sedation, and long-term cognitive impairment.⁹⁻¹¹ In 1 study that followed 821 surgical and medical ICU patients,¹⁰ 34% who suffered from delirium had cognitive impairment at 12 months compared with only 6% at baseline. In a 2004 article in the *Journal of the American Medical Association*,¹¹ a cohort of 224 critically ill patients on mechanical ventilation were prospectively evaluated for development of delirium. After controlling for clinical variables including age, severity of illness, comorbid conditions, coma, and use of sedatives or analgesic medications, delirium was independently associated with a 3.2-fold increase in 6-month mortality.

In an effort to yield prognostic information, delirium has been classified into motoric subtypes of hyperactive, hypoactive, and mixed.⁴⁻⁶ This situation has at times led to

Table 1**Hyperactive, hypoactive, and mixed subtypes of delirium**

Characteristic	Hyperactive	Hypoactive	Mixed
Percentage in ICU	1.6	43.5	54.1
Psychomotor	Agitation, restlessness, emotional lability	Decreased responsiveness, apathy, withdrawal	Combination of both
Hallucinations/delusions	Common	Rare	Variable
Prognosis	Better	Worse	Variable
Age	Younger	Older	All
Sleep-wake cycle disturbance	More common	Less common	More common

Data from Meagher DJ, Trzepacz PT. Motoric subtypes of delirium. *Semin Clin Neuropsychiatry* 2000;5:75-85; and Peterson JF, Pun BT, Dittus RS, et al. Delirium and its motoric subtypes: a study of 614 critically ill patients. *J Am Geriatr Soc* 2006;54:479-84.

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