

Delirium Assessment in Intensive Care Unit: A Need for Higher Regard!

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Although an acute change in mental status associated with ill health has been described in earlier medical history, it was only in 1 AD that the term “delirium” was coined by Celsus, which is derived from Latin word “delirare,” the literal meaning of which is to “go out of the furrow” or “to deviate from a straight track.”^{1,2} Delirium may be defined as a neuropsychiatric syndrome presenting with a constellation of cognitive and noncognitive symptoms characterized by attention and orientation deficit, behavioral disorganization, and a fluctuating course. It can further be described as hypoactive, hyperactive, and mixed subtypes, with hypoactive and mixed subtypes being more frequently encountered in critically ill.³ The incidence of delirium in the intensive care unit (ICU) has been reported in a wide range of 16–89% in different studies.⁴ It is not uncommon to overlook the diagnosis of delirium; the diagnosis, being clinical, needs a religious screening at bedside.

Delirium in ICU has been observed more frequently in patients on mechanical ventilator support, and its presence has been seen to be associated with poorer outcomes. The authors would like to thank Junior et al. for their study published in the current issue of *Indian Journal of Critical Care Medicine* delving into the incidence and outcomes of critically ill patients developing delirium in ICU. The authors have reported delirium incidence of 37.3% in their study, with hypertension being the most significantly associated predisposing factor and precipitants being the mechanical ventilation (MV), physical restraints, higher acute physiology and chronic health evaluation II (APACHE II) scores (15 ± 5.9), and use of sedatives (opioids and benzodiazepines). Exposure to natural light and duration of ICU length of stay (LOS) were statistically significant independent predictors of occurrence of delirium.⁵

In a meta-analysis, including 42 relevant studies, Salluh et al. found an delirium incidence in critically ill to be 31.8% (5,280 of 16,595 patients).⁶ The PADIS guidelines 2018 have summarized the risk factors with strong evidence for occurrence of delirium in ICU as nonmodifiable and modifiable ones. The nonmodifiable risk factors include elderly age-group, dementia, previous history of coma, emergency surgical intervention, or trauma prior to admission to ICU and higher APACHE scores while the modifiable ones includes use of benzodiazepines and blood transfusions.⁷ In a systematic review that included six observational studies, of the 25 risk factors found to be associated with occurrence of delirium, 21 were considered precipitating that included sepsis, fever, need of vasopressors, electrolyte derangements, metabolic acidosis, hypertension, anemia, respiratory pathology, and use of certain group of medications (anticholinergics, benzodiazepines, opiates).

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Four factors were considered predisposing that included elderly age-group, dementia, central neurological disorder, and alcohol abuse.⁸

Of the various delirium assessment tools available, a systematic review by Devlin et al. identified the following validated ones—abbreviated cognitive test for delirium, cognitive test for delirium, confusion assessment method for the ICU (CAM-ICU), Intensive Care Delirium Screening Checklist, Neelon and Champagne Confusion Scale, and Delirium Detection Score.⁹ CAM-ICU has been extensively studied and found to be an accurate tool to screen and diagnose ICU delirium in systematic review and meta-analysis.^{10,11} Junior et al. have used Richmond Agitation Sedation Scale and CAM-ICU instruments in their study to assess delirium incidence in ICU and did twice daily assessment for their patients.⁵

In a systematic review published in 2020 that included twenty articles assessing association between delirium severity and hospitalized patient outcomes, the authors found a strong correlation between delirium severity and increased ICU LOS, and lesser proportion of patients getting discharged home.¹² In a population-based, retrospective cohort study in 5,936 propensity score-matched patients who survived to discharge from hospital, the authors found that 0–30-day postdischarge mortality was significantly higher in delirious patients than that in those who didn't have delirium (hazard ratio, 1.44).¹³ In another prospective cohort study in mechanically ventilated patients to assess delirium as an independent predictor of long-term clinical outcomes, the authors concluded that presence of delirium was independently associated with higher 6-month mortality (34%) vs 15% in those without delirium ($p = 0.03$). The group with delirium also had longer ICU LOS ($p < 0.001$).¹⁴ It has been found in various studies that ICU delirium may be associated with increased chances of long-term

cognition impairment. Salluh et al. found that patients with delirium had significantly higher hospital mortality, longer duration of MV, ICU LOS, and hospital LOS.⁶ Junior et al. also found longer ICU LOS and higher mortality in patients with delirium.⁵ However, the study is limited by a small number of patients enrolled.

Since occurrence of ICU delirium is an independent predictor of clinical outcomes in patients, it is potentially preventable and often reversible as well, and identifying the factors predisposing the patients to delirium development becomes important. Hence, the importance of regular and thorough delirium assessment using various tools available is to recognize and timely intervene to improve patient outcomes. Further studies may be done to evaluate the dosages of drugs contributing to development of delirium. Also, prevention and treatment of delirium needs to be highlighted to positively change the patient clinical outcome.

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