Commentary

Delirium assessment in the intensive care unit: patient population matters

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See related research by Van Rompaey *et al*., http://ccforum.com/content/12/1/R16

Abstract

The high prevalence and pervasive impact of delirium in critically ill patients has been demonstrated in multiple studies. Subsequently there has grown a body of literature regarding delirium assessment in critical illness. The present commentary briefly discusses delirium screening in an intensive care unit environment.

The *Diagnostic and Statistical Manual of Mental Disorders IV* diagnostic criteria for delirium are disturbances of consciousness and change in cognition that develops over a short period of time and fluctuates during the course of the day. There also must be evidence from the history, physical examination, or laboratory findings that this disturbance is caused by the direct physiological consequences of a general medical condition.

The prevalence of delirium in critical illness and the importance of its impact on intensive care unit (ICU) outcomes have recently gained recognition in the literature [1]. Delirium may persist after an ICU stay and may have long-term effects on cognitive and functional abilities as well as impacting on the patient's quality of life . Current critical care practice guidelines recommend routine delirium screening [2].

While there has been ongoing research into delirium in noncritically ill patients for many years, only recently has attention been given to delirium in the ICU [3]. The instruments used to assess delirium in noncritically ill patients are often not suited to the unique needs of a critical care population. The characteristics of patients in a critical care environment have hindered development of standardized delirium assessments. Some issues that ICU delirium screening instruments need to address are the inability of intubated patients to participate in a verbal assessment, the severity of illness, and limitations on staff time that may preclude a lengthy cognitive assessment.

There are six delirium assessment instruments in the literature that have been evaluated in an ICU setting. These instruments are presented in Table 1 and are based in part on the *Diagnostic and Statistical Manual of Mental Disorders* criteria for diagnosing delirium. Each of these scales has been validated, but the patient populations assessed with these instruments have varied from study to study and the extent of the validation efforts have also varied. These ICU delirium screening instruments differ in the components of delirium they evaluate, in their threshold for diagnosing delirium, and in their ability to be used in patients with impaired vision and hearing and in those requiring intubation.

The recent manuscript published in *Critical Care* by Van Rompaey and colleagues highlights some of the issues surrounding delirium assessment in critical illness and why it is important to think about both the patient population and ICU staff when one chooses a delirium screening instrument [1]. The study compares the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) with the Neelon and Champagne Confusion Scale (NEECHAM) Confusion Scale in a nonintubated, mixed ICU patient population. The authors determined that the incidence of delirium assessed by the two scales was similar. Compared with other studies of ICU delirium that have used the CAM-ICU, the prevalence of delirium in this study was lower and probably related to the absence of intubated patients. The NEECHAM scale allows one to use different cutoff points to categorize patients into delirium, mild confusion, at risk, and normal. As the authors acknowledge, it is unknown whether using an ordinal approach versus a binary one will improve the predictive value of the

CAM-ICU = Confusion Assessment Method for the Intensive Care Unit; ICU = intensive care unit; NEECHAM = Neelon and Champagne Confusion Scale.

Table 1

Intensive care unit assessment instruments for delirium

Cognitive Test for Delirium [7]
Cognitive Test for Delirium – abbreviated version [8]
Confusion Assessment Method for the Intensive Care Unit [9,10]
Intensive Care Delirium Screening Checklist [11]
Neelon and Champagne Confusion Scale [12,13]
Delirium Detection Score [14]

NEECHAM scale. The CAM-ICU currently gives one a dichotomous outcome for delirium and does not allow one to assess severity.

Ease of administration and acceptance by the nursing and physician staff are critical to any implementation of delirium screening in an ICU setting. Recent literature is emerging on the practicalities of using delirium screening instruments in the ICU. A study by Pun and colleagues demonstrated the ability to implement CAM-ICU screening and documented nursing acceptance of the tool [4]. Devlin and colleagues showed that the Intensive Care Delirium Screening Checklist, along with education supporting its use, improved the ability of both nurses and physicians to detect delirium at the bedside [5,6]. An ideal delirium screening tool for clinical use must be performed rapidly at the bedside and should not have complicated scales to calculate whether the patient is delirious. In a research setting, investigators will have more time and resources available to calculate delirium scores and look at associations with outcomes – but this is not practical in clinical practice.

While delirium is increasingly being recognized as an important risk factor for adverse outcomes after critical illness, the choice of instrument to screen for delirium depends on the setting (clinical care versus research) and on the patient populations (surgical versus medical, or intubated versus nonintubated). Details about the available ICU delirium screening instruments can be found in a recent review article [3]. The patient population is important when choosing a delirium screening instrument for clinical care or research and also needs to be kept in mind when evaluating the literature on ICU delirium.

Competing interests

The author declares that they have no competing interests.

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