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Letter to the Editor

The Relationship between Delirium Trajectories and the Outcome of ICU Patients Depends on many Influencing Factors

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Letter to the Editor

We read with interest the article by Lindroth *et al*. on a retrospective cohort study of the association between delirium courses, assessed using the Intensive Care Delirium Screening Checklist (ICDSC), and clinical characteristics and 30-day mortality in hospital or after discharge in patients treated in the intensive care unit for ≥24 hours [1]. Of the 21,071 patients included, 19% had mild, short-term delirium, 19% had severe delirium with rapid recovery, 31% had severe delirium with slow recovery, 14% had mild delirium with accelerated recovery, and 17% had severe delirium without recovery, while 3% died [1]. It was concluded that classification by course does not predict 30-day mortality in delirium in the ICU [1]. The study is noteworthy, but some ambiguities should be clarified.

The first point is that this is a retrospective study, which has several disadvantages [1]. Retrospective studies have poor data quality, missing data, do not allow causality to be proven (only association), are susceptible to memory bias and selection bias, have difficulties in controlling for confounding variables, and generally have a lower level of evidence compared to prospective studies [2].

The second point is that the outcome of delirium depends not only on the factors assessed, but also on the time between the onset of delirium and its diagnosis, the cause of delirium, and the treatment of delirium [3]. As long as these determinants are not included in the assessment, the results remain unreliable.

The third point concerns the discrepancy between the statement in the "Methodology" section that the severity of delirium was assessed over a period of 7 days and the inclusion criteria, according to which patients must remain in the intensive care unit for at least 24 hours [1]. How can someone who only stays in the intensive care unit for 24 hours have a 7-day course?

The fourth point is that 30-day mortality depends not only on the severity and duration of delirium, but also on numerous other influencing factors such as the reason for admission to the ICU, previous concomitant medications, comorbidities, additional medications administered and procedures performed in the ICU, type of ventilation, previous delirium, presence of malignancy, arterial hypertension, body temperature, cerebral imaging results, and EEG findings [4]. Although some of these factors were included in the assessment, all confounding factors must be included in the analysis to avoid bias.

The fifth point is that delirium can be categorized not only by duration and severity, but also by whether it is hyperactive or hypoactive. How was hypoactive delirium identified using the ICDSC? How many patients had hypoactive delirium, and did the outcome differ between hyperactive and hypoactive delirium?

The sixth point is that it was not explained how the ICDSC was assessed in intubated and sedated patients. Since intubated patients are usually sedated, the ICDSC results may be misleading because the first 6 points of the ICDSC cannot be reliably assessed in sedated patients. Sedated patients should therefore be excluded from the analysis.

In summary, for the ICDSC to be reliably applied to intensive care patients, they must be awake and able to follow instructions, and for the influence of delirium on the outcome of intensive care patients to be reliably assessed, all variables that influence the type, intensity, and duration of delirium must be included in the assessment.

Declarations

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