Should we screen ICU patients for delirium?

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Whereas intensivists are traditionally concerned about issues such as mechanical ventilation and haemodynamics, recently other topics have gained interest, including quality of life after Intensive Care Unit (ICU) admission and delirium. Delirium is a disturbance of consciousness with cognitive changes or perceptual disturbances which develops over a short period of time, and is caused by a general medical condition [1]. The hypoactive subtype, characterized by low vigilance, slow or absent speech and apathy, seems to occur most frequently.

Delirium is prevalent in ICU patients, but its reported frequencies show an enormous variation (16-89%), partly depending on so called ‘case-mix’ [2]. It is expected that the frequency of delirium in the ICU will rise further because of the ageing of our societies and an increase in elderly ICU patients [3]. Furthermore, ICU patients are currently being sedated for a shorter time and less profoundly [4], which may also increase the frequency of delirium.

ICU delirium has an unfavourable prognosis. Mortality in patients who experience an episode of delirium during ICU admission was found to be higher than in ICU patients who were never delirious (64% versus 34%) [5]. Further delirious patients remained on average 1-2 days longer on the ICU, were more often discharged to a nursing home, were less self-supporting and at increased risk of dementia [6,7].

An important issue in these studies is confounding risk factors for delirium such as age, co-morbidity and severity of illness, which are also risk factors for a poor prognosis. Although in the above-mentioned studies adjustments were made for age, co-morbidity and severity of illness, these factors were registered on ICU admission only, and scores for disease severity and co-morbidity lacked detail. The observed association between delirium and worse outcome may therefore be subject to so called ‘residual confounding’. It is though plausible that delirium is an independent risk factor for a worse prognosis, because it leads to more complications such as auto-extubation and falls. Because of the longer stay and increased number of complications, delirium also increases costs [8].

Delirium therefore seems important enough to assess. However, the majority of delirium patients, particularly those with predominantly hypoactive episodes, are not recognised by ICU physicians [9]. Cognitive testing is a challenge in intubated and mechanically-ventilated patients and ICU physicians may lack experience and affinity with these issues. Furthermore, intensivists seem to be used to a high frequency of hypoactive delirious patients, and may thus not regard hypoactive delirium as being unusual. An evaluation by a neurologist, psychiatrist or clinical geriatrician is regarded the ‘gold standard’ in the diagnosis of delirium, but active consultation by an intensivist is usually required.

Because of underdiagnosis of delirium and its impaired prognosis, various tools have been developed for standard monitoring by ICU nurses. In this issue of the Netherlands Journal of Critical Care, van den Boogaard et al. review delirium assessment tools for ICU patients [10]. The most frequently used instrument is the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU), which uses four criteria for diagnosing delirium [11]: (1) change in cognition, (2) acute onset or fluctuating course, (3) disordered attention and (4) disorganized thinking. For the CAM-ICU, 95% sensitivity and 98% specificity have been described when compared with the final judgment of a neuropsychologist, clinical geriatrician or psychiatrist [11]. The ‘Intensive Care Delirium Screening Checklist’ (ICDSC), is another well-known tool for delirium assessment in ICU patients. Based on DSM-IV criteria, the ICDSC evaluates the presence of delirium using eight items based on observations during a nursing shift. For the ICDSC, 64% specificity and 99% sensitivity have been reported in comparison with the evaluation by a psychiatrist [12].

In a direct comparison of the CAM-ICU and the ICDSC, the CAM-ICU showed higher sensitivity than the ICDSC. However both tests showed considerably lower sensitivity (64% and 43%, respectively) and specificity (88% and 95%, respectively) than were found in the original articles [9]. Furthermore, in the studies described above, the CAM-ICU and the ICDSC were administered by a limited number of research nurses. The diagnostic value of these instruments as administered by the bedside nurse is estimated by many intensivists to be much lower, and is currently being investigated in a Dutch multicentre study. Routine delirium monitoring has been introduced in several ICUs in the Netherlands, but its implementation may be difficult.

Standard delirium monitoring raises important new questions. Patients with brain injury and patients in whom sedation has just...
been stopped may screen positive for delirium, but will not be regarded as delirious by most physicians. Should these patients be treated with haloperidol? There is definitely no evidence for this approach: even treatment of obvious delirium with haloperidol is not supported by a randomized double-blind placebo-controlled clinical trial [13], let alone treatment of doubtful cases described above. All drugs have side-effects and haloperidol is no exception, the most important are extrapyramidal signs such as parkinsonism, dystonia and akathisia, defined as unpleasant sensations with an inability to remain motionless. ‘Torsades des points’ and malignant neuroleptic syndrome are very rare [14]. Haloperidol also has sedating effects, which are unwanted in hypoactive delirium. Treatment of hypoactive delirium with haloperidol is therefore controversial in the absence of obvious hallucinations. Thus without standard monitoring, most cases of hypoactive delirium will remain unrecognized; with standard monitoring, it is unclear what to do with many of the patients who screen positively. Implementation of delirium screening may be hampered if test results do not appear to change clinical practice. In contrast, hyperactive episodes of delirium are easier to recognize, and are more likely to receive treatment.

At the moment, it is unclear whether implementation of standard delirium monitoring ultimately improves outcome. In a small study (n=119) with historical controls, the duration of mechanical ventilation and hospital stay decreased after implementation of an analgesia-delirium-sedation protocol that included the CAM-ICU [15]. Another study from van den Boogaard et al. suggested that implementation of the CAM-ICU increased the number of patients who received haloperidol, but decreased the average dose and time period of haloperidol use [16]. There was no effect on length of ICU stay; effects on outcome were not studied [16].

Standard delirium monitoring undoubtedly increases awareness of an important problem in the ICU, which may result in reassurance and earlier treatment of the patient. Furthermore, it is important to discuss a delirious state with family members. Standard screening for delirium should therefore be considered. The article by van den Boogaard et al. [10] may help the intensivist to choose between various delirium assessment tools.

References