

Commentary

Optimum sedation and analgesia in critical illness: we need to keep trying

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Related to *Research* by van de Leur *et al.*, see page 513

Abstract

Many studies have documented patients' distressing recollections of the intensive care unit (ICU). The study by van de Leur and colleagues, conducted in a group of surgical ICU patients with moderate severity of sickness, found that the frequency of such unpleasant memories was increased in those able to recall factual information about their stay in the ICU. The study did not include sedation scoring but it did use a simple tool to assess factual recall. This tool appeared reliable and could be easily applied in any ICU. Previous work strongly suggests that abolishing memory of ICU by using deep sedation would not be an appropriate response to these findings. Rather, we need to work on strategies that reduce distress by improving analgesia, reducing noxious stimuli (if possible) and, potentially, using pharmacology to produce a calm patient with minimal sedation. Achieving the latter is rarely possible today but it might become possible with future drug development.

Keywords amnesia, critical care, hallucinations, recollection, sedation

In a study reported in this issue of *Critical Care*, van de Leur and colleagues [1] investigated the experience of critical illness and intensive care unit (ICU) support from the patient's perspective. Although many workers have documented memories of a period spent in the ICU, van de Leur and coworkers attempted to relate memories of discomfort in ICU to patients' factual recall of the ICU. Memories of the ICU were common (54%), supporting previous findings [2,3]. Good factual recall was associated with increased risk for having memories of physical and/or psychological discomfort. The relative frequency of hallucinations as a source of ICU discomfort (32%) appears greater than that found by others [2,4], although it must be highlighted that this is the percentage in the subset of patients with recollection of the ICU – a stratification not considered by other studies. Recollections of pain, discomfort and other stressors suggest an undesirable experience in ICU, and may be the origin of sleep disturbances [2] and other (post-ICU) problems that affect quality of life.

A significant strength of the study is the early assessment of patients (within 3 days of ICU discharge) using a structured questionnaire administered at a face-to-face interview. The methodology is further enhanced by the use of an assessment of factual recall in a matched control group of general ward patients. The fact that they were interviewed 3 days after hospital discharge by telephone rather than face-to-face is probably of little significance. The tool used to assess factual recall was simple and would be easily transferable between units.

The authors acknowledge that a lack of objective sedation scoring was a weakness in the study. More detail on the relative balance between the sedation and analgesia received by study patients would also have been useful. The finding that young patients have better factual recall and more memory of discomfort may be due in part to a decreased sensitivity to sedation/analgesia relative to older patients. It may also be, in part, a reflection that younger patients may be less intellectually impaired by a given physiological insult than

more elderly patients. A measure of the intensity of the remembered discomfort would also be useful in a study of this type (e.g. using a visual-analogue scale). We might judge the recollection of occasional mild discomfort as a less worrying problem and might even view it as (potentially) unavoidable.

Illness severity in this study was moderate, as evidenced by the modest Acute Physiology and Chronic Health Evaluation II scores on day 1, relatively short length of stay (LOS) in the ICU, and the ability of almost all patients to complete a structured interview within 3 days of ICU discharge. Although this might be viewed as a weakness, it might in fact be a strength because such patients, when interviewed during recovery, may be expected to remember discomfort from a previous phase of illness more accurately than patients with high sickness severity scores with a long LOS in the ICU [5,6].

A cynical view after reading this study (specifically the finding that lack of factual recall was associated with less recollection of discomfort) might be that it is better to use deeper sedation in ICU patients. However, such sedative practice has been shown to increase the duration of mechanical ventilation and LOS in the ICU [7,8], which are known risk factors for nosocomial pneumonia [9–11]. Absence of memory for a period may produce a condition similar to post-traumatic stress disorder [6]. Therefore, the use of high-dose sedation might be counterproductive in terms of post-ICU psychological health. This appears to be a significant 'quality of life' problem for many patients after discharge from the ICU [12]. The use of diaries completed by relatives and/or staff to reduce the memory deficit may be useful in this context [13].

From this paper we may conclude that the ideal ICU sedative regimen should produce good analgesia in a patient who is 'tranquil' but who retains mental clarity. Complementary to good analgesia might be a reduction in noxious stimuli. van de Leur and colleagues [14] previously suggested that discomfort due to the presence of a tube in the trachea may in fact be due to memories of tracheal suction. It is somewhat surprising that chest physiotherapy was not identified as a source of discomfort in postoperative surgical patients. We need to explore the use of suction regimens that are limited in terms of frequency or invasiveness in appropriate patients.

The finding that more than 50% of patients who remembered the ICU had memories of discomfort is disappointing. To evaluate this problem fully, we must study different patient populations, using similar methodology to that used in the study by van de Leur and colleagues, but including an objective measure of sedation/analgesia and a means to quantify the degree of discomfort remembered.

Competing interests

The author(s) declare that they have no competing interests.

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