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Marc Leone, Sophie Medam, Djamel Mokart

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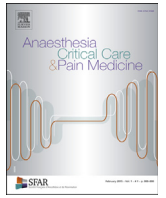
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Editorial

Septic shock in intermediate care unit: Don't play with fire



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In France, the activity of intensive care units is framed by a Decree Law (Décret n° 2002-466 du 5 avril 2002, article R. 6123-35), which demands that intensive care units (ICU) are the units where patients with reversible multiple organ failure should be hospitalised. This Decree Law states that the nurse:patient ratio must be at 2:5. The publication of this Decree Law represented a real progress for the good of our patients.

The literature shows that increasing the nurse staffing in ICU is associated with improved patient outcomes. Commonly, a high proportion of hours of nursing care enhances the level of care for hospitalised patients [1]. In an observational, prospective study, Hugonnet et al. suggested that 26.7% of all infections could be avoided if the nurse-to-patient ratio was above 2.2 [2]. In a retrospective analysis, Needleman et al. found that a reduced registered nurse staffing was associated with increased mortality [3]. In the same line, in surgical ward, an increase in a nurses' workload by one patient was associated with an increased likelihood of inpatient dying within 30 days of admission by 7% [4]. Hence, the workload of nurses is critical for the patient's outcome. In ICU, a ratio above 2 to 3 patients per nurse does not seem safe for the quality of care [3,5].

In the same Law Decree, it was demanded to open intermediate care units in most institutions. At variance with ICU, these units have to manage stable patients at potential risk of organ failure. The nurse:patient ratio appears less clearly in those units, but scientific societies recommend a 1:4 ratio (<http://www.cnerea.fr/UserFiles/File/national/documents/referentiels/referentiel-usc-definitif.pdf>).

In an interesting study, Meaudre et al. showed that among 59 patients with septic shock treated in an intermediate care unit, only 16 (27%) patients required to be transferred to the intensive care unit [6]. The team should be congratulated for this study. The level of care seems excellent in their institution. The compliance to 3-h bundles was remarkable, most procedures ranging from 90% to 100% rate, the nurse:patient ratio in this unit being, according to guidelines, at 1:4. These results are in line with a previous study showing that the management of elderly patients

with septic shock in intermediate care units resulted in better survival than expected [7].

However, the readers should pay attention before translating those findings into their institution. First, in this study, the intermediate care unit and ICU work together as the two pieces of a puzzle. Admission to intermediate care unit was deliberate in around 70% of cases, but transfer between the two units seems constantly a possible option. Of note, 27% of patients were transferred to ICU during the study period. Second, the authors selected a specific, elderly population, in which limits to life-sustaining therapy were identified in around 20% of cases. The intensity of septic shock was probably moderate as highlighted the plasma lactate concentrations (2.1 (2.4) mmol/l) and the severity scores. It seems that the vascular failure was predominant in those patients, without effect on the respiratory system. Only the patients exhibiting a rapid lactate clearance, even if the result did not reach a significant level ($P = 0.08$), were maintained in the intermediate care unit. Moreover, the mortality rate of patients admitted to intermediate care unit was relatively low (28.8%), as compared with that of patients with septic shock [8,9]. Thus, the conclusions of this study should not be misinterpreted. Admission to intermediate care unit remains possible in selected patients with septic shock but this strategy requires a high level of expertise in the selection, care, and management of patients. The patients who do not respond to initial care should be immediately transferred to the closest ICU. In such situation, nurse education is the cornerstone for the early decision of ICU transfer. In fact, it has been shown that a simple screening tool for sepsis used as part of nursing assessment represents a useful way of identifying early sepsis evolution in both medical and surgical patients in an intermediate care unit setting [10].

Despite these limitations, these results should be considered with attention because they open new horizons for the management of critically ill patients. Somewhere, they suggest that we can resuscitate patients outside the walls of ICU. In the same line, Hallengren et al. showed that, in patients admitted to intermediate care unit, norepinephrine can be initiated on a peripheral line [7]. This type of management could be useful during times of ICU bed shortage [11], or to avoid overcrowding ICU with patients who do not require this level of care. This also serves to unburden the conventional wards to intermediate severity patients, avoiding delaying the initiation of treatments by an adequate screening of septic signs [10].

In conclusion, we should keep in mind that the quality of care largely depends on the nurse staffing. Increasing the workload of nurses would result in poor outcomes for our patients, and treating

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patients with septic shock in intermediate care unit can represent a setback. However, the merit of the excellent study of Meaudre et al. is probably to show that vascular failure in elderly septic patients can be treated without delay, outside the ICU walls, especially in the context of ICU bed shortage.

Disclosure of interest

The authors declare that they have no competing interest.

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Marc Leone*, Sophie Medam

Department of anaesthesia and intensive care, hôpital Nord, Aix-Marseille université, AP-HM, chemin des Bourrelly, 13015 Marseille, France

Djamel Mokart

Department of anaesthesia and intensive care, institut Paoli-Calmettes, 13009 Marseille, France

*Corresponding author

E-mail address: marc.leone@ap-hm.fr (M. Leone).