

LIVES 2017: Did routine admission of elderly patients reduce mortality?



Among critically ill elderly patients in France, a programme to promote systematic intensive care unit (ICU) admission increased ICU use but did not reduce six-month mortality, according to results of the Intensive Care for Elderly-CUB-Réa 2 (ICE-CUB 2) trial published in JAMA to coincide with presentation at the 30th European Society of Intensive Care Medicine, meeting in Vienna this week.

You might also like: [Elderly Care in the ICU: Professor Bertrand Guidet](#)

Population ageing leads to an increased demand for intensive care among elderly patients. These patients now account for 10% to 20% of all ICU admissions, and this trend continues to increase. Despite that ICU care is one of the most expensive and intrusive endeavours in healthcare, many physicians have doubts as to whether elderly patients benefit from ICU admission.

The ICE-CUB 2 trial was a cluster-randomised clinical trial to determine whether a recommendation for systematic ICU admission in critically ill elderly patients reduces six-month mortality compared with usual practice. The trial included 3,036 critically ill older patients (aged ≥ 75 years) who were free of cancer and in good functional and nutritional state and who presented to 24 hospitals in France. The hospitals were randomised to a programme that promoted systematic ICU admission based on consensus-derived criteria ($n = 12$ hospitals) or to usual care ($n = 12$ hospitals).

Based on the results, patients cared for at the intervention hospitals ($n = 1518$) were more likely to be admitted to the ICU than those cared for in the control hospitals ($n = 1518$) (61% vs. 34%; relative risk [RR], 1.80; 95% CI, 1.66-1.95). However, mortality at both hospital discharge (30% vs. 21%) and six months (45% vs. 39%) was higher in the intervention group. The higher ICU admission and hospital mortality rates persisted after adjusting for baseline severity of illness, although the findings at six months were no longer statistically significant (RR, 1.05; 95% CI, 0.96-1.14). Functional status and physical quality of life at six months were not significantly different between groups.

The findings suggest that each elderly patient should be considered for ICU admission on an individual basis, with specific tools to assess the patient's Index of Independence in Activities of Daily Living (ADLs), the study's lead author, Prof. Bertrand Guidet, Director of Medical Intensive Care, St. Antoine Hospital (Paris, France) told ICU Management & Practice in an email.

In the section on limitations, the JAMA study mentions that the lack of reduction in six-month mortality between the two groups may result from high-quality ward care in some centres that had lower ICU admission rates. "The study compared patients admitted or not in ICU but patients not admitted in ICU might be admitted in units with very good care (i.e., specialised units, intermediate care units, geriatric wards) contributing to reduce mortality," Prof. Guidet explained.

It should be noted that, in the centres that had the intervention, there was joint decision on ICU admission between the ICU physicians and the ED physicians. Prof. Guidet emphasised that "shared decision-making process should be promoted between ED and ICU physicians but also with the patient (if possible) and the relatives (when they are available)."

In an accompanying editorial, Derek C. Angus, MD, MPH, University of Pittsburgh School of Medicine, Department of Critical Care Medicine, Pittsburgh, Pa., notes that optimal ICU bed supply and admission decisions have been debated for decades: "Central to the debate is the difficulty anticipating whether ICU care can yield meaningful long-term benefit. As such, most controversy surrounds whether to admit patients with limited life expectancy, such as very old patients or those with significant chronic health problems, with wide variability in ICU admission documented in clinical practice."

The author says the well-conducted study by Guidet et al. provides the first randomised data on the effects of ICU care for a broad range of critically ill elderly patients, a very important question for resource-intensive healthcare systems worldwide. Guidet's trial showing a lack of benefit is "consistent with an earlier observational study from Paris, which similarly found no clear benefit to higher ICU use, though it is inconsistent with a recent observational study from the United States that suggested that greater access to ICU care benefited older patients with pneumonia," Dr. Angus points out.

For countries like Germany or the USA, with 3 to 4 times higher ICU bed supply, the editorial says the findings from the trial by Guidet et al. certainly support an argument for close examination of ICU admission decisions, with the potential to safely reduce ICU beds, care, and costs.

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Bertrand Guidet will present the results of the trial in the hot topics session, Room Berlin, on Wednesday 27th September, 14.10-17.30.

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