

## Commentary

# Predicting whether the ICU can help older patients: score needed

Maité Garrouste-Orgeas and Jean Carlet

Medical-Surgical ICU, Saint Joseph Hospital, 75014 Paris, France

Corresponding author: Maité Garrouste-Orgeas, [mgarrouste@hopital-saint-joseph.org](mailto:mgarrouste@hopital-saint-joseph.org)

Published online: 22 June 2005

This article is online at <http://ccforum.com/content/9/4/331>

© 2005 BioMed Central Ltd

*Critical Care* 2005, **9**:331-332 (DOI 10.1186/cc3750)

See related research by De Rooij *et al.* in this issue [<http://ccforum.com/content/9/4/R307>]

## Abstract

Because the need for intensive care exceeds its availability in several countries, intensivists must admit those patients most likely to benefit. Intensive care unit admissions of elderly patients will increase substantially in the near future. Decreased self sufficiency and quality of life are common after hospitalization in older patients and they may require discharge to a nursing home, although some patients feel that life in a nursing home would be worse than dying. We have much to learn about matching the use of life-supporting treatments to the health-related values of older patients. A specific outcome-prediction score for older patients would help improve quality of care.

The demographic revolution that is sweeping across industrialized countries will dramatically increase the absolute number of older individuals over the next 40 years. Identifying patients most likely to benefit from critical care is essential, both to prevent suffering related to unnecessary treatments and to ensure optimal use of finite resources. Quality of life may be of greater concern for the elderly than for younger individuals.

In this issue of *Critical Care*, De Rooij *et al.* [1] review recent data on outcomes of elderly patients admitted to intensive care units (ICUs), discussing the impact of age, diagnosis, pre-admission functional status and patients' preferences regarding life-sustaining treatments. They suggest that developing a specific score for predicting long-term outcomes in elderly ICU patients would help intensivists identify those patients most likely to benefit from ICU admission and would aid decision-making with the patient or relatives. The outcome of elderly patients after ICU admission is a complex issue and the quality of survival may be as important as the quantity of survival. As highlighted by De Rooij *et al.*, available outcome studies are heterogeneous, have included various age groups [2-5] and have rarely evaluated the influence of pre-hospital disability [4].

In this editorial, we will discuss two important aspects. Firstly, as emphasized by De Rooij *et al.*, studies that have assessed outcomes of elderly patients have included admitted patients instead of patients triaged for ICU admission. Patients with severe impairments and the very oldest may be under-represented among admitted patients, which would bias the results toward better outcomes. Although age *per se* is an important determinant of hospital mortality, the most important determinant of ICU mortality is severity of the acute illness, as shown by studies taking this important factor into account (see, for example [2]). Age and severe disability have major effects on long-term outcomes [4]. In studies of triaged patients [6-10], age was an independent factor of ICU refusal with non-surgical disease and self sufficiency. The impact of triage, the lack of scoring systems specifically designed for elderly patients and the poor performance of available scores [11,12] complicate comparisons of outcome studies. Evaluating the lack of chance possibly associated with denial of ICU admission in older patients is difficult, given the limited reliability of severity scores for predicting hospital mortality. In the overall triaged population, patients with intermediate severity of illness who are denied ICU admission have high standardized mortality ratios (ratio of observed mortality over predicted mortality) [6,7]. Triage is extremely challenging in older patients, as there is often a complex combination of acute and chronic diseases associated with physical impairments and psychological distress. In this setting, a specific score would be of great interest to quantify two key aspects: the lack of chance associated with ICU refusal and prediction of outcomes, including functional dependency, after ICU admission.

The second important aspect concerns one of the greatest challenges regarding care of the elderly, which is to assist patients in deciding what treatments they want to receive should they experience a life-threatening condition. Older

patients who survive critical illness at the cost of losing their self sufficiency are frequently distressed by the burden they feel that they impose on their family. As reported by De Rooij *et al.*, the patient's wishes are usually unknown at the time of triaging to the ICU, for reasons including acute cognitive impairment, absence of advance directives, absence of a primary-care physician [13] or under-recognition of pre-existing cognitive impairment [14]. Inaccurate estimates by intensivists of patients' willingness to receive life-sustaining treatment may adversely affect quality of care [15,16]. Characteristics of the patient, including self sufficiency and quality of life, show no correlation with wishes regarding ICU admission [17]. Even patients with only a small chance of recovery may want to be admitted [17]. In countries where medical paternalism remains an obstacle to patient autonomy, physicians must work harder on encouraging patients with chronic diseases to think about their preferences and to communicate their wishes to their doctors or relatives, in order to improve the match between what they want and what they receive.

Both the general public and healthcare professionals are interested in the epidemiology of outcomes, social burdens related to care and quality of life in older patients. Data on these points are useful for planning post-ICU rehabilitation programs. An improved scoring system would provide new knowledge on the prognosis of older patients with critical illness, thereby improving quality of care.

### Competing interests

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

### References

1. De Rooij SE, Abu-Hanna A, De Jonghe E: **Factors that predict outcome of intensive care treatment in very elderly patients.** *Crit Care* 2005, **9**:R307-R314.
2. Somme D, Maillet JM, Gisselbrecht M, Novara A, Ract C, Fagon JY: **Critically ill old and the oldest-old patients in intensive care: short and long term outcomes.** *Intensive Care Med* 2003, **29**:2137-2143.
3. Montuclard L, Garrouste-Orgeas M, Timsit JF, Misset B, De Jonghe B, Carlet J: **Outcome, functional autonomy, and quality of life of elderly patients with a long term intensive care unit stay.** *Crit Care Med* 2000, **28**:3389-3395.
4. Boumendil A, Maury E, Reinhard I, Luquet L, Offenstadt G, Guidet B: **Prognosis of patients aged 80 years and over admitted in medical intensive care unit.** *Intensive Care Med* 2004, **30**:647-654.
5. Demoule A, Cracco C, Lefort Y, Ray P, Derenne JP, Similowski T: **Patients aged 90 years and older in the intensive care unit.** *J Gerontol A Biol Sci Med Sci* 2005, **60**:129-132.
6. Sprung CL, Geber D, Eidelman LA, Baras M, Pizov R, Nimrod A: **Evaluation of triage decisions for intensive care admission.** *Crit Care Med* 1999, **27**:1073-1079.
7. Joynt GM, Gomersall CD, Tan P, Lee A, Chen CA, Wong EL: **Prospective evaluation of patients refused admission to intensive care unit: triage, futility and outcome.** *Intensive Care Med* 2001, **27**:1459-1465.
8. Garrouste-Orgeas M, Montuclard L, Timsit JF, Misset B, Christias M, Carlet J: **Triaging patients to the ICU: a pilot study of factors influencing admission decision and outcome.** *Intensive Care Med* 2003, **29**:774-781.
9. Garrouste-Orgeas M, Montuclard L, Timsit JF, Reignier J, Desmetre T, Karoubi P, Moreau D, Montesino L, Duguet A, Boussat S, *et al.*; French ADMISSIONREA Study Group: **Predictors of inten-**

- sive care unit refusal in French intensive care units: a multi-center study.** *Crit Care Med* 2005, **33**:750-755.
10. Garrouste-Orgeas M, Timsit JF, Montuclard L, Gattolliat O, Phillipart F, Rigal G, Misset B, Carlet J: **ICU admissions procedures in patients over 80 years and one-year outcome and quality of life.** *Intensive Care Med* 2004, **30**:S101.
11. Knaus WA, Zimmerman JE, Wagner DP, Draper EA, Lawrence DE: **APACHE acute physiology and chronic health evaluation: a physiologically based classification system.** *Crit Care Med* 1981, **9**:591-597.
12. Cohen L, Lambrinos J: **Investigating the impact of age of mechanical ventilation using a population of 41848 patients from a statewide database.** *Chest* 1995, **107**:1673-1680.
13. Hanson LC, Lazorick S: **Emergency triage to intensive care: can we use prognosis and patients preferences.** *J Am Geriatr Soc* 1994, **42**:1277-1281
14. Pisani MA, Redlich C, McNicoll L, Wesley Ely E, Inouye SK: **Underrecognition of preexisting cognitive impairment by physicians in older ICU patients.** *Chest* 2003, **124**:2267-2274.
15. Tsevat J, Dawson NV, Wu AW, Lynn J, Soukup JR, Cook F, Vidaillet H, Phillips RS for the HELP investigators: **Health values of hospitalized patients 80 years older.** *JAMA* 1998, **279**:371-375.
16. Uhlmann TR, Pearlman RA: **Perceived quality of life and preferences for life-sustaining treatment in older adults.** *Arch Intern Med* 1991, **151**:495-497.
17. Simchen E, Sprung C, Galai N, Zitser-Gurevitch Y, Bar-Lavi Y, Gurman G, Klein M, Ley A, Levi L, Zveihil F, *et al.*: **Survival of critically ill patients hospitalized in and out of intensive care units under paucity of intensive care unit beds.** *Crit Care Med* 2004, **32**:1654-1661.