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EDITORIAL

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# "Are you sure it's about 'age'?"

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The title is a rephrasing of a line in the James Bond movie *Skyfall*, where Bond asks Silva: "Are you sure it's about 'M'?"

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Ninety-seven percent of elderly patients (over 85 years) treated in the ICU for circulatory failure die within 12 months of the life-threatening episode. The ICU survival rate is 33 % and about 23 % of patients are discharged from hospital, but only 8 % are alive at 6 months and only 3 % at 1 year.

One cannot help but feel uncomfortable and discouraged after reading the results of a secondary analysis of data from a large trial comparing the effects of dopamine and noradrenaline on ICU outcomes by Biston et al. [1], in this issue of *Intensive Care Medicine*.

What are the implications of taking into consideration the very uncertain prognosis associated with elderly patients treated in the ICU for circulatory failure? What is the appropriate clinical algorithm and how should a physician respond the next time a call comes in from an emergency department about an 85-year-old patient in shock?

## Researcher vs. attending physician bias and potential conflict of interest

When a study finds a 3 % survival and 97 % mortality rate, then the 3 % are often associated with an 'opportunity for improvement' and the 97 % is presented as a 'challenge.' Although it is an acceptable and motivating proposition for a researcher, the same terms 'opportunity' and 'challenge' can be viewed as unrealistic and misleading expressions relative to the real world of clinical decision-making and complex and unique patient–physician relationships.

## Available evidence

Several studies have confirmed the very poor long-term prognosis of elderly patients admitted to the ICU [2–9] (Table 1). Importantly, factors such as an atypical presentation with delayed diagnosis and treatment, suboptimal management (because guidelines are not tailored for an elderly population), lower physiologic reserve, immuno-senescence coupled with an inadequate immune response, more frequent and earlier treatment limitations, and finally inadequate discharge policies (location, timing) may account for or at least contribute to excess mortality. Moreover, up to 50 % of ICU survivors, of all ages, suffer from post-intensive care syndrome (PICS), which is defined as substantial comorbidities (including new or worsening impairments of physical, cognitive, and mental health that adversely impact quality

**Table 1** Mortality rates in elderly patients admitted to ICU for sepsis and/or shock

| References | Age (years) | Follow-up | Mortality (%) | Patient characteristics |
|---|---|---|---|---|
| Nasa (2011) | >80 | ICU | 79 | Severe sepsis/septic shock |
| Tomassini (2011) | >75 | In-hospital | 55 | Cardiogenic shock |
| Vosylius (2005) | >75 | In-hospital | 62 | Shock |
| Biston [1] | 75–84 | 1 year | 84 | Circulatory failure |
| | >85 | 1 year | 97 | Circulatory failure |
| Lim (2009) | >75 | 1 year | 52 | Cardiogenic shock |
| Tabah (2010) | >80 | 1 year | 67 | Septic shock and multiple organ failure |
| Chelluri (1993) | ≥75 | 1 year | 76 | Circulatory failure |

of life) that can persist for months or even years after hospital discharge [10].

As we move the goal post for measuring outcomes from short-term, simple mortality data to long-term, qualitative results, the luster associated with the short-term success of recent years has now started to tarnish. Data about quality of life, recovery of functional status, cognitive impairment [11], and burden on families and society are equally or maybe even more important and influential. Accurate prediction of long-term prognosis, mainly related to underlying disease and baseline nutritional and functional status, requires a significant expansion of detailed geriatric data.

## Evidence from other medical fields

The lens of ICU-centered research is only one way of looking at this problem. Another way is to look for evidence in other medical fields like cardiology, neurology or hematology, which have had to face similar ethical issues. Is there an age restriction for percutaneous coronary intervention (PCI) in ST-elevation myocardial infarction (STEMI) or recombinant tissue plasminogen activator (rtPA) administration in stroke management? Is there an unambiguous age limit to allogeneic stem cell transplantation?

Contrary to previous stroke management guidelines, where the age of 80 was explicitly mentioned as a relative contraindication to rtPA administration, current recommendations do not state any age restriction [12]. A similar formulation (i.e., without age restriction) can be found in the current recommendations for PCI in STEMI management in the elderly [13]. Even the oldest age group can benefit from these interventions. There is a growing body of evidence supporting the use of allogeneic stem cell transplantation in older patients; this evidence is prompting physicians to say, "There should be no upper age limit for hematopoietic stem cell transplantation" [14].

However, "significant comorbidities" still represent a relative contraindication for PCI in STEMI [13]. "Clear and honest information provided to the patient/family about the potential risks and benefits from treatment" is mentioned in eligibility checklist for rtPA for acute ischemic stroke [12]. These issues of awareness of risks/rewards along with a genuine dialogue between physicians and patients and families are becoming a priority and outweigh the impact of age in clinical decision-making.

## The patients' and doctors' perspective: "Large left middle cerebral artery stroke is a fate worse than death"

Individual perceptions regarding quality of life changes considerably during aging and the subtitle for this section, which comes from a recent survey among neurologists [15], nicely indicates to what extent physician beliefs and value judgments can impact their decision-making process.

When younger people face a severe disease, they often take an attitude that involves a "struggle against the disease" (an attitude that is also shared by a large number of younger health-care professionals). Elderly patients, on the other hand, are often more nuanced and reflective and adopt a "live and cope with a handicap" attitude. The notion of what is and what is not an "acceptable" handicap may vary greatly in the elderly population and cannot be generalized.

## We can be sure that it is NOT only about 'age'

Just as cost constraints are an omnipresent feature of medicine today [16], so uncertainty (about a prognosis and expected long-term outcome) will remain an omnipresent feature of medical decision-making. Despite the presence of better data and evidence, this uncertainty will not disappear from clinical practice.

However, better insight into which patient subgroups are most likely to experience substantial benefits from ICU interventions, plus better insight into the trajectory of ICU survivors after discharge, as well as patient wishes

and personal values would allow us to realistically evaluate the overall context of the patient's health and make the best possible decisions. These issues should be discussed within the health-care system and society at large.

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