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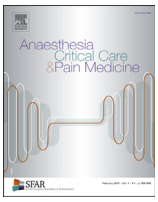

Original article

Practices of end-of-life decisions in 66 southern French ICUs 4 years after an official legal framework: A 1-day audit

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ABSTRACT

Objective: Since the implementation of two French laws in 2002 and 2005 and the implementation of guidelines about End-of-Life (EoL) decisions, few studies concerning EoL practices in French intensive care units (ICUs) have been reported. This study was aimed at assessing compliance with recommendations and current legislation concerning EoL decisions.
Method: Prospective observational study based on 1-day audit conducted from January to May 2009 in 66 southern French ICUs.
Results: Six hundred and twenty-five patients were included (median age: 63 [52–76] years, median SAPS II: 46 [34–58]). The written designation of a surrogate decision-maker was reported for 87 (15%) patients. Advance directives were completed for only 4% of patients. The EoL decision-making process consisted in a multidisciplinary approach for 99 (47%) patients and was recorded in the medical chart for 63 (64%) cases. Families were informed about medical decisions in 58% of cases. This proportion was higher (87%) if a decision to forego life-sustaining therapy was made. EoL decisions consisted of withholding treatments for 72 (94%) patients and withdrawal of treatments for 5 (6%) patients. In the multivariate stepwise logistic regression, four variables were independently associated with a decision to forego life support: preexisting dependence on others ($P < 0.0001$), advance directives ($P = 0.01$), age ($P = 0.008$) and the SAPS 2 score ($P = 0.009$).
Conclusion: The major finding of the present study is the existence of a gap between the widely approved EoL recommendations made by scientific societies and the daily practice of southern French ICUs. Even if EoL decisions are mostly shared with relatives, their written documentation in medical charts remains insufficient. Concerning EoL practices, the withdrawal of treatment remains an uncommon decision.

Abbreviations: EoL, end-of-life; ICU, intensive care unit; SAPS, simplified acute physiology score; SD, standard deviation; OR, odds ratios.

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1. Introduction

The overall mortality rate in intensive care units (ICUs) is around 20% with a large part of deaths occurring after decisions to withhold or withdraw life-sustaining therapy [1–4]. The quality of dying patient care has been a focus of increasing research over the last decade. It is considered an indicator of ICU quality [5–7]. Nevertheless, a great deal of variation exists in EoL practices between and within countries [8–13]. In France, recommendations by scientific societies and two laws have clarified the ethical and legal aspects of EoL decisions [14]. In 2002, laws required that patients were informed about their diagnosis, the associated potential outcomes and the option to designate a surrogate (on an official written form), especially for decision-making in case of incompetence [15]. In 2005, a law concerning patient EoL promoted the patient's right to make her/his own decisions, including the right to refuse unwanted therapies [16]. This strengthens the possibility for establishing advance directives and designating a surrogate decision-maker [17]. For incompetent patients, decisions to forego life-sustaining therapy should be made after a multidisciplinary staff meeting and the procedure should be reported in the medical chart [18]. However, recommendations are difficult to implement. Moreover, a great variability has been reported concerning practices relating to patient information and decisions concerning EoL care [2,8,9,13]. In 2009, an audit focusing on the implementation of 13 recommendations was performed in 66 French ICUs [19]. Two of these recommendations detailed patient information and ethical decision procedures. Therefore, the aim of the present study was to evaluate compliance with these two recommendations and with current legislation concerning EoL decisions 4 years after their implementation.

2. Methods

A 1-day audit was performed in order to verify the implementation of 13 recommendations in 66 French ICUs [19]. Because this study was observational, the need for informed consent was waived in accordance with French law. All patients or their relatives were informed about the study by the ICU physicians and could refuse participation. The study was approved by the Institutional Review Board of the Nîmes University Hospital (IRB09/04/03).

2.1. Study design

As described in a previous study, the AzuRea group is a network including 66 ICUs (33 in academic hospitals and 33 in non-academic hospitals), representing 710 beds [20]. From January to May 2009, a 1-day audit was conducted after obtaining informed consent from each ICU department head. Sixty-four residents were in charge of the study. They were required to be in the last 2 years of their educative process and should have spent 6-months as residents in the ICU in order to have knowledge of its organization. In each university system, a senior investigator trained a group of residents before the audit day.

2.2. Data collection

As described previously, the residents had to fill a case-report form (20 sheets) including [19]:

- patient characteristics at admission;
- past medical history;
- information concerning closest patient relatives and surrogate decision-makers;
- the identification of the general practitioner;
- the patient goals of care comprising treatment and EoL care planning;
- information concerning ethical discussions and EoL decisions were collected:
  - multiprofessional approach,
  - documentation of the decisions,
  - information shared with families,
  - withholding or withdrawing life-sustaining therapies (mechanical ventilation, vasopressors, renal replacement therapy, artificial nutrition);
- the existence of advance written directives.

The type of hospital (academic or non-academic), the number of ICU beds, the ratio of nurses to patients and the number of doctors present on the audit day were collected. The mortality rate was measured 28 days after the audit day by contacting each ICU.

2.3. Statistical analysis

Because this observational study was part of an audit concerning 13 recommendations, the specific number of subjects needed was not calculated for the present part of the study. The quantitative variables are expressed as means [standard deviation (SD)] or medians [first quartile (Q1), third quartile (Q3)] according to variable distributions. Qualitative variables are expressed as percentages.

A univariate analysis was first performed using Chi^2 tests or Fisher exact tests when necessary for qualitative factors and using analysis of variance or Mann-Whitney tests when necessary for quantitative factors. Then, we used unconditional multivariate logistic regression to estimate the adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for the association between selected factors and foregoing life-sustaining treatments. For model building, we applied forward stepwise introduction of selected variables from univariate analysis ($P = 0.20$). Model fit was assessed by the Hosmer-Lemeshow test. All analyses were performed using SAS version 9.2 (SAS Institute Inc, Cary, North Carolina) using a two-sided type 1 error rate of 0.05 as the threshold for statistical significance.

3. Results

3.1. Study population

The characteristics of the study population are described in Table 1.

3.1.1. Relationship with relatives

Upon ICU admission, contact with relatives was reported for 582 (93%) patients (Table 2). In the 43 (7%) remaining patients, no relatives were clearly reported. An official surrogate decision-maker designated in a written sheet was reported for 87 (15%) patients, with no differences observed between patients admitted from the emergency department or from home ($n = 36.41\%$), the other hospital wards ($n = 47$, 54%), and long-term facilities ($n = 3$, 3%), ($P = 0.25$, missing data = 1). The identification of the patient's general practitioner was reported for 392 (63%) patients. The rate of general practitioner identification was similar in patients with an ICU stay < 2 days (16/28, 57%) and those with an ICU stay ≥ 2 days (375/596, 63%) ($P = 0.55$).

3.1.2. Ethical discussions and end-of-life decisions

Ethical discussions occurred in 411 (66%) patients. These ethical considerations were either recorded on the medical chart for 166 (40%) patients or orally discussed by physicians and/or nursing staff for 245 (60%) patients.