

Forgoing life-sustaining treatment in an Israeli ICU

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Abstract *Objective:* To determine whether physicians in Israel withhold and/or withdraw life-sustaining treatments.

Design: A prospective, descriptive study of consecutively admitted patients. Patients were prospectively evaluated for diagnoses, types and reasons for forgoing life-sustaining treatments, mortality and times from forgoing therapy until mortality.

Setting: A general intensive care unit of a university hospital in Israel.

Results: Forgoing life-sustaining treatment occurred in 52 (13.5 %) of 385 patients admitted and 5 (1 %) had cardiopulmonary resuscitation.

Withholding therapy occurred in 48 patients. Four patients with brain death had all treatments withdrawn. No patient had antibiotics, nutrition

or fluids withheld or withdrawn. Time from forgoing therapy until death was 2.9 ± 0.6 days. Thirty-one of 48 (65 %) patients who had therapy withheld died within 48 h.

Conclusions: Withholding life-prolonging treatments is common in an Israeli intensive care unit whereas withdrawing therapy is limited to brain dead patients. Terminal patients die soon after withholding, even if the therapy is not withdrawn. Withholding treatments should be an option for patients and professionals who object to withdrawing therapies.

Key words Do-not-resuscitate · Forgoing · Withholding · Withdrawing · Life-sustaining treatments · Intensive care unit

Introduction

Despite great advances in medical technology and therapeutics, some patients admitted to intensive care units (ICUs) do not survive. Several decades ago, most patients died in ICUs after cardiopulmonary resuscitation [1]. Over the years, changes have occurred in societal and physicians attitudes and practices [2]. The withholding or withdrawing of life-sustaining interventions in intensive care patients around the world is common and has increased [1–9]. The majority of patients dying in an ICU do so after the forgoing of life-prolonging therapies and most patients do not undergo cardiopulmonary resuscitation [1–9]. According to Jewish law or *Halacha*, human life is of infinite value [10]. In addition, one is prohibited from hastening death in the terminally ill by

such methods as withdrawing life-sustaining therapies [10, 11]. Withholding such treatments, however, is permitted [10, 11]. In Israel as opposed to many other countries, the withdrawal of mechanical ventilation or vasopressor therapy leading to death in terminal, critically ill patients is considered by many to be unethical and illegal [10–12]. To test the hypothesis that physicians in Israel and particularly in our ICU withhold and rarely withdraw life-prolonging therapies, the present study prospectively evaluated the withholding and withdrawing of life-sustaining treatments and the dying process in an Israeli ICU.

Table 1 ICU admission diagnoses

Trauma	18
Sepsis/Septic shock	8
Respiratory failure	8
Gastrointestinal surgery	7
Vascular surgery	4
Liver transplantation	2
Overdose	2
S/P cardiac arrest	2
GI bleeding	1

Methods

All patients admitted to the Hadassah University Medical Center's General Intensive Care Unit from November 15, 1994 until July 31, 1995, were eligible for this study and were evaluated prospectively. Patients who died and/or had medical interventions withheld or withdrawn (including brain dead patients) had a special form completed by the attending critical care physician who was responsible for the care and decision making for that patient. The form included the patient's age, sex, diagnosis, acute and underlying illnesses, the name of the physician making the decision, reason for forgoing, types of forgoing, and dates and times of admission to the ICU, forgoing decision, intensive care unit discharge and hospital death.

The Hadassah University Medical Center is a 650-bed, academic, tertiary care referral center. The General Intensive Care Unit had 8–11 beds during this study period and admitted patients with trauma, shock, respiratory failure, transplanted organs, and surgical and medical emergencies.

The following definitions were used: Withholding treatment: a decision was made not to start or increase a life-saving intervention. Prospective withholding occurred when these decisions were made at a time prior to the intervention being required. Withdrawing treatment: a decision was made to actively stop a life-sustaining intervention presently being given. Weaning therapies including inotropes or mechanical ventilation for clinical and physiological reasons were not considered withdrawing. The attending physician documented the date and time of the withholding or withdrawing decision and the treatments to be withheld, withdrawn and/or continued on the form. The study and form were approved by the institutional Helsinki Committee with a waiver of informed consent. Consent by the physicians was implied by completing the form.

Statistical analysis included the chi-square test for categorical analyses and the Student's *t*-test or ANOVA for analyses of continuous data. Patients with brain death were not included in the analysis of times from admission to forgoing life-sustaining treatments or from forgoing therapy until death. Data are presented as the mean \pm SEM. Statistical significance was considered a *p* less than 0.05.

Results

Over the 8.5 month period, a total of 385 patients were admitted to the ICU. Fifty-seven patients died and/or had the forgoing of life-sustaining treatment. In the ICU, 56 of the 57 patients (98%) received mechanical ventilation and 48 patients (84%) received vasopressor agents. Cardiopulmonary resuscitation was performed

in the ICU without forgoing therapy in 5 (9%) of the 57 patients and in only one patient was a cardiac arrest unexpected.

Forgoing life-sustaining treatment occurred in 52 (13.5%) of the 385 patients and 91% of the 57 patients. The ICU admission diagnoses of the 52 patients are shown in Table 1. The mean age of the 52 patients was 57 ± 3 years. There were 28 men and 24 women. APACHE II scores were 30.8 ± 1.3 (range 11–48); 31.3 ± 1.3 in the patients who had forgoing of life-prolonging therapies, 25.8 ± 7.2 in the patients who underwent cardiopulmonary resuscitation and 30.1 ± 3.1 in the patients with brain death ($p = 0.48$). The mean ICU length of stay was 9.1 ± 1.6 days and the mean hospital length of stay after admission to intensive care was 9.9 ± 1.7 days. The time from admission to forgoing life-sustaining treatments was 6.1 ± 1.1 days. This time was 3.6 ± 0.9 days in the 22 patients with neurologic injuries and 8.0 ± 1.7 days in the 30 patients without head injuries, $p = 0.05$.

All patients undergoing cardiopulmonary resuscitation died in the ICU. Forty-eight (12%) of the 385 patients admitted died in intensive care, eight (2%) patients who had the forgoing of life-sustaining therapies in intensive care died outside the ICU after transfer to a hospital ward, and one patient who had the prospective withholding of intubation, ventilation, vasopressors and cardiopulmonary resuscitation survived.

Withholding therapy took place in 48 patients including 48 withholding cardiopulmonary resuscitation (43 prospective), 32 vasopressors (32 prospective), 13 blood products, 10 dialysis (2 prospective), 2 surgery and 1 prospective intubation and ventilation. Intravenous fluids were continued but not increased in 41 patients and blood-drawing ceased in 10 patients. Fourteen of the patients had the withholding of cardiopulmonary resuscitation only, but not of other therapies. Twenty patients had the withholding of vasopressors at the same time as a decision was made not to perform cardiopulmonary resuscitation.

Six patients had life-sustaining treatment withdrawn. No patient had terminal weaning. Four patients with brain death had the withdrawal of all life-sustaining treatment including mechanical ventilation and vasopressor therapy. Two patients with severe traumatic head injury and do-not-resuscitate orders, also had the withdrawing of vasopressor treatment in one and the withdrawing of vasopressin in the other. The withdrawal of vasopressors occurred only after a miscommunication between the physician and nurse, and the patient had a falling blood pressure which showed little response to the vasopressor therapy. Vasopressin therapy for diabetes insipidus was withdrawn when the patient had a falling blood pressure with little likelihood of continued increased urine output. Four patients with severe head injuries had decreases in their ventilator support.

Table 2 Reasons for forgoing life-sustaining treatments

Neurologic injuries	18
Multiple organ system failure	16
Sepsis/Septic shock	5
Underlying disorders	4
Brain death	4
Resistant organisms	3
Miscellaneous	2

Ventilation rates were decreased to 10, 5, 4, and 0 (CPAP). In all instances, respiratory support was diminished gradually and weaning ceased if the patient could not adequately breathe without ventilatory support. The above patients are described because the investigators believed there may have been some question as to therapy being withdrawn.

No sedation was withheld or withdrawn from a conscious patient. Fifteen patients had sedation started, continued or increased, and 32 patients required less or no sedation. All patients were unconscious secondary to their underlying disorder or sedation. No patient had the withholding or withdrawing of antibiotics, nutrition or fluids.

The major reasons for forgoing life-sustaining treatment in the 52 patients are shown in Table 2. The time from the forgoing of life-prolonging therapy to death was 2.9 ± 0.6 days. The time from forgoing life-sustaining treatment to death was 1.8 ± 0.4 days if the eight patients who were discharged to the hospital ward were excluded. There was no difference in the times from forgoing life-sustaining treatments until death in the patients who had vasopressors withheld (3.4 ± 0.7 days) compared to those who did not (2.1 ± 1.1 days) ($p = 0.33$). Of the 48 patients who had therapy withheld, 21 (44%) died within 24 h and 31 (65%) died within 48 h.

Discussion

In contrast to most of the world, where terminal critically ill patients die after the withdrawing of life-sustaining therapies or terminal weaning [1, 9], the practice in the present study in Israel was very different. This study demonstrates that life-prolonging therapies are routinely used in an Israeli ICU. Withholding life-prolonging treatments is very common whereas withdrawing therapy occurs only in patients declared dead after meeting brain death criteria or in patients where the medications have no physiologic effect. Most physicians would not even consider this withdrawing treatment. Finally, fluids and nutrition were not withheld or withdrawn and were considered different than other medical interventions in the present study. This is the opinion of only a minority of American physicians [13].

Many ethicists, physicians and the President's Commission have rejected a moral distinction between withholding and withdrawing life-sustaining treatment [14, 15]. In addition, the President's Commission believed that if treatment once started could not be stopped, serious adverse consequences would occur, including the failure to begin treatment that might save a patient [14]. The present study showed no evidence of this occurring. Despite the lack of withdrawing interventions in terminal ICU patients, the strong commitment in Israeli society to the sanctity and preservation of life led to initial aggressive treatment in the majority of patients who had therapies later withheld. The percentage of patients receiving mechanical ventilation and vasopressor therapy was higher than has been observed in other studies [5, 16]. There was no difficulty in commencing treatment in many severely ill patients, despite the knowledge that withdrawing would not take place. In fact, 20 of the patients were 70 years or older and nine were 80 years or older.

Despite the early aggressive treatment provided, doctors were able to withhold treatment subsequently. In fact, forgoing occurred earlier in the present study (6.1 days) than studies in England (11.2 days) and South Africa (9.6 days) [8]. The earlier time in this study may be related to the high incidence (33%) of patients with head trauma and severe neurologic injury.

Jewish ethics [*Halacha*] do differentiate between active and passive actions and withholding and withdrawing life-sustaining treatments [10, 11]. Death may not be hastened in a dying patient by an act such as withdrawing life-prolonging therapies [10]. There is, however, no obligation to lengthen such a patient's life and therefore withholding treatment is permissible [10]. The present findings have relevance not only to physicians practising in Israel but also to doctors practising all around the world. Although the majority of doctors equate withdrawing with withholding therapies [14, 15, 17], many physicians and nurses have more difficulties withdrawing than withholding treatments [14, 17, 18]. Doctors who are older, Catholic or Jewish are less willing to withdraw life support [19]. Reluctance to withdraw treatments may be related to the fact that patients die more quickly after the active withdrawal than the passive withholding of therapies. Turner et al. [8] noted that when treatments were decreased, death occurred within 6.8 h in England and 12.9 h in South Africa. Sprung et al. [20] demonstrated, primarily in American patients, that death occurred 2.8 ± 0.6 days after the withholding of therapies and 0.3 ± 0.1 days after withdrawing ($p < 0.001$) treatments. Koch [6] showed that death occurred 0.17 days after terminal weaning in America.

The type of forgoing of life-support interventions is not only a medical decision but also a religious and ethical decision. Although intensive care patients cannot

easily demonstrate patient autonomy, they or their surrogates may want to be involved in the decision making process as to how the patient will die. This is especially true if withdrawing therapy is contrary to the patient's religious and ethical value system. Many Jewish and non-Jewish physicians and patients may be pleased to know that withholding, and not only withdrawing, treatment is an acceptable alternative. In fact, differentiating withholding from withdrawing interventions may be important now that withdrawing therapies is being equated with physician-assisted suicide [21].

Some doctors may believe that not withdrawing life-prolonging treatment is cruel and a needless prolongation of the dying process. This is not the case if a patient and/or physician believe therapy should not be discontinued. Unfortunately, there is great variability in assessments of prognosis [22] and futility [23] and in physician decisions to withdraw treatment [24]. Some may content that it is inappropriate to continue intensive treatment for another 1 or 2 days when intensive care beds are so scarce and the treatment is not going to save this particular patient. The active withdrawal of treatments, however, is ethically distinct from the situation where therapies are continued in the hope they may prove effective but where there is an existing "do-not-resuscitate" order in the event of cardiac or respiratory arrest. Some of the present patients had prospective withholding of interventions that were never actually withheld. In addition, health care professionals typically take at least 48 h to agree on a formal recommendation to limit life-sustaining treatments [9] and the majority of patients who have life support forgone are presently not discharged from intensive care [1]. If one excludes patients in the current study who were discharged to the hospital ward, the increased duration in intensive care was only 1 more day. This may not be too high a price to pay for allowing a physician to act based on his moral standard or permitting a patient to die according to his religious beliefs.

Although the forgoing of life-sustaining treatments as practised in our ICU (which may or may not be representative of other Israeli ICUs) may not be appropriate for the majority of patients and/or health care professionals, it may be right for some. The medical, ethical, social and religious values and opinions important in end of life decisions may be quite varied among different patients, but also between different professionals

[24]. Many physicians practising today are not aware of the fact that there was a time when the withdrawal of life-prolonging therapies such as mechanical ventilation was a deviation from the standard of medical practice [2, 25] or that other options to withdrawing therapy or terminal weaning are possible.

The withdrawal of life-prolonging therapies commenced as the patient's right to refuse life-sustaining treatments [25]. If patient autonomy is to be taken seriously, then health care professionals should respect patient and family decisions not only when they agree with them, but also when they disagree. Withdrawing life-sustaining treatments when it violates a patient's values or religious beliefs can not be considered the best medical treatment for the patient.

Physicians have become more interested in societal needs than in individual patient requirements [26] and have stated that futile or non-beneficial treatments should not be provided even if requested [27]. Many doctors unilaterally withhold or withdraw life-prolonging treatments that they believe are futile, at times without the knowledge or consent of patients or their surrogates, and sometimes over their objections [28]. The high costs of continued intensive care which doctors believe is futile may cause doctors to withdraw rather than withhold life-sustaining therapies. There has been a shift among intensivists to withdraw more than withhold life-prolonging treatments [1, 9]. The present study and that of Koch et al. [6] demonstrate that most critically ill, terminal patients die within 48 h after therapies are withheld but not withdrawn. Therefore, this potential option should be considered and respected. In the United States, some state statutes do not allow the withdrawal of life-sustaining interventions, even from brain dead patients, based on a religious exemption [29]. The management of death in the ICU requires considerate attention to the ethnic and social circumstances of all those affected by the decision making process. In some cases, active withdrawal of therapies may not be acceptable and the present study demonstrates that withholding is a viable alternative. Continued treatment of terminally, critically ill patients is expensive but may be justified in certain situations.

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References

1. Sprung CL, Eidelman LA (1996) Worldwide similarities and differences in the forgoing of life-sustaining treatments. *Intensive Care Med* 22: 1003-1005
2. Sprung CL (1990) Changing attitudes and practices in forgoing life-sustaining treatments. *JAMA* 263: 2211-2215
3. Vincent JL, Parquier JN, Preiser JP, et al. (1989) Terminal events in the intensive care unit: Review of 258 fatal cases in one year. *Crit Care Med* 17: 530-533

4. Smedira NG, Evans BH, Grais LS, et al. (1990) Withholding and withdrawal of support in the critically ill. *N Engl J Med* 322: 309–315
5. Daffurn K, Kerridge R, Hillman KM (1992) Active management of the dying patient. *Med J Aust* 157: 701–704
6. Koch KA, Rodeffer HD, Wears RL (1994) Changing patterns of terminal care management in an intensive care unit. *Crit Care Med* 22: 233–243
7. Wood GG, Martin E (1995) Withholding and withdrawing life-sustaining therapy in a Canadian intensive care unit. *Can J Anesth* 42: 186–191
8. Turner JS, Michell WL, Morgan CJ, Benatar SR (1996) Withdrawal of life support. Frequency and practice in a London and Cape Town intensive care unit. *Intensive Care Med* 22: 1020–1025
9. Prendergast TJ, Luce JM (1997) Increasing incidence of withholding and withdrawal of life support from the critically ill. *Am J Respir Crit Care Med* 155: 15–20
10. Bleich JD (1981) Euthanasia. In: Bleich JD (ed) *Judaism and healing. Halakhic perspectives*. Ktav Publishing House Inc, New York, pp 134–145
11. Rosner F, Tendler MD (1980) Euthanasia. In: Rosner F, Tendler MD (eds) *Practical Medical Halacha*. Feldheim Publishers Jerusalem, p 56
12. Yael Shefer v. The State of Israel. C. A. 506/88. *Psak Din* 48 [1] 87
13. Task Force on Ethics of The Society of Critical Care Medicine (1990) Consensus Statement on the ethics of forgoing life-sustaining treatments in the critically ill. *Crit Care Med* 18: 1435–1439
14. President's Commission for the Study of Ethical problems in Medicine and Biomedical and Behavioral Research (1983) *Deciding to Forgo Life-Sustaining Treatment: Ethical, Medical and Legal Issues in Treatment Decisions*. U.S. Government Printing Office, Washington, D.C.
15. American Thoracic Society (1991) Withholding and withdrawing life-sustaining therapy. *Am Rev Respir Dis* 144: 726–731
16. Vincent JL, Bihari DJ, Suter PM, et al. (1995) The prevalence of nosocomial infection in intensive care units in Europe. *JAMA* 274: 639–644
17. The Society of Critical Care Medicine Ethics Committee (1992) Attitudes of critical care medicine professionals concerning forgoing life-sustaining treatments. *Crit Care Med* 20: 320–326
18. Vincent JL (1990) European attitudes towards ethical problems in intensive care medicine: results of an ethical questionnaire. *Intensive Care Med* 16: 256–264
19. Christakis NA, Asch DA (1995) Physician characteristics associated with discussions to withdraw life support. *Am J Public Health* 95: 367–372
20. Sprung CL, Eidelman LA, Pizov R, et al. (1997) Influence of alterations in forgoing life-sustaining treatment practices on a clinical sepsis trial. *Crit Care Med* 25: 383–387
21. Orentlicher D (1996) The legalization of physician-assisted suicide. *N Engl J Med* 335: 663–667
22. Poses RM, Bekes C, Copare FJ, Scott WE (1989) The answer to "What are my chances, doctor?" depends on who is asked: prognostic disagreement and inaccuracy for critically ill patients. *Crit Care Med* 17: 827–833
23. Curtis JR, Park DR, Krone MR, Pearlman RA (1995) Use of the medical futility rationale in do-not-attempt-resuscitation orders. *JAMA* 273: 124–128
24. Cook DJ, Guyatt GH, Jaeschke R, et al. (1995) Determinants in Canadian health care workers of the decision to withdraw life support from the critically ill. *JAMA* 273: 703–708
25. In the matter of Karen Quinlan. 70 NJ 10, 355 A2d 647 [1976]
26. Luce JM (1994) The changing physician-patient relationship in critical care medicine under health care reform. *Am J Respir Crit Care Med* 150: 266–270
27. Luce JM (1995) Physicians do not have a responsibility to provide futile or unreasonable care if a patient or family insists. *Crit Care Med* 23: 760–766
28. Asch DA, Hansen-Flaschen J, Lancken PN (1995) Decisions to limit or continue life-sustaining treatment by critical care physicians in the United States: Conflicts between physicians' practices and patients' wishes. *Am J Respir Crit Care Med* 151: 288–292
29. Olick RS (1991) Brain death, religious freedom and public policy: New Jersey's landmark legislative initiative. *Kennedy Instit Ethics J* 1: 275–288