Evaluation of Changes in Forgoing Life-Sustaining Treatment in Israeli ICU Patients*

Daniel J. Jakobson, MD; Leonid A. Eidelman, MD; T. M. Worner, MD; Arieh Eden Oppenheim, MD; Reuven Pizov, MD; and Charles L. Sprung, MD, FCCP

Introduction: Over the last several years, there have been legal decisions and changes in medical directives concerning end-of-life decisions in Israel.

Methods: The data were compared to evaluate the changes in the frequency and types of forgoing of life-sustaining treatment (FLST) in patients who were admitted to the ICU during period I (November 1994 to July 1995) and period II (January 1998 to January 1999).

Results: During period I, there were 385 ICU admissions, and during period II there were 627 ICU admissions. In period I, FLST or death occurred in 13.5% of patients, and in 12% in period II. There was no significant difference in cardiopulmonary resuscitation (9% vs 13%, respectively), withholding therapy (90% vs 91%, respectively), or withdrawing therapy (0% vs 0%, respectively) between the two study periods.

Conclusions: There was no significant change in the frequency or types of FLST in an Israeli ICU between 1994 and 1998, despite passage of a new Patients’ Rights Law and the issuing of a Ministry of Health directive on the treatment of the terminally ill, both of which occurred in 1996, and recent district court decisions favoring the termination of life-sustaining therapies.

CHEST 2004; 126:1969–1973

Key words: changes; do not resuscitate; life-sustaining therapy; limiting therapy; withdrawing; withholding

Abbreviations: CPR = cardiopulmonary resuscitation; FLST = forgoing of life-sustaining treatment; WD = withdrawing of life-sustaining treatment; WH = withholding of life-sustaining treatment

Despite great advances in technology and medical knowledge, ICU physicians have come to recognize that some patients will die despite their heroic efforts. The forgoing of life-sustaining treatment (FLST) has become accepted, and is not viewed as an abandonment of the patient or as a medical failure.1

The attitudes and practices of the FLSTs have changed over the years.2–4 Several studies have documented these changes in forgoing therapy,2–7 and different cultures have diverse practices regarding ethical issues and FLST.8,9

Prendergast and Luce5 reported an increasing incidence of the withholding and withdrawing of life support from critically ill patients in the United States. Similarly, McLean et al4 observed an increase in the withdrawing of life-sustaining treatment (WD) in Canada between 1988 and 1993.

The FLST practices of Israeli physicians have been previously described. These practices were primarily the withholding of life-sustaining treatment (WH) and not the WD.10 Since that study, there have been changes in Israeli laws and directives concerning the FLST. More FLST cases have reached the district courts, but not the Supreme...
Court. Several decisions of the district courts in 1995 and 1996 have favored the FLST and have permitted further WD. A new Patients’ Rights Law was instituted in 1996 providing for informed consent for medical treatments and the disclosure of information, including diagnosis, prognosis, a description of the proposed procedure, its purpose, benefits, and complications, the chances of success, alternative procedures with the chances of their success and complications, no procedures, and refusal of medical treatment. In addition, in 1996 the director of the Ministry of Health issued a General Directive on the treatment of terminally ill patients. This directive explicitly stated the conditions under which a terminally ill patient could avoid life-sustaining therapies.

Before the 1996 law and directive, questionnaires administered to Israeli doctors showed that they were willing to withdraw life-sustaining treatments.11,12 Sixty-six percent of non-ICU Israeli physicians stated that there were circumstances that would justify the hastening of a patient’s death, and 40% stated that a change in the current law would alter their position to provide assistance to a terminally ill patient who had requested to actively end his life.11 Forty-nine percent of critical care physicians stated that WD was the same or more acceptable than WH.12 In 1997, questionnaires administered to Israeli physicians and elderly individuals ≥ 70 years of age revealed that physicians would use more life-sustaining treatments than the elderly would want.13

To evaluate the influence of these court decisions, the new patients rights law, and the Ministry of Health directive, the present study was undertaken to assess the current practices for WH and WD in a general ICU. The results were compared to the previous study (conducted from 1994 to 1995) of FLST practices in the same Israeli ICU.10

**Materials and Methods**

The study was conducted in a 650-bed, academic, tertiary care referral center. All patients admitted to the ICU from January 1, 1998, until December 31, 1998, were evaluated prospectively. All patients who died and/or had any type of limitation of medical treatment were included in the study. The attending critical care physician, who was responsible for the care and decision making for the patient, completed a form describing the patient’s age, sex, diagnosis, acute and chronic illnesses, reasons and types of forgoing treatment, dates and times of admission to the ICU, dates and times of discharge from the ICU, and dates and times of discharge from the hospital or date of death.

The same definitions of FLST that were used in our previous study were used in this study.14 The definitions are as follows. WH means that a decision was made not to start or to increase a life-saving intervention. A prospective WH occurred when these decisions were made at a time prior to the intervention being required. WD means that a decision was made to actively stop a life-sustaining intervention that was presently being administered. Weaning therapies, including the use of inotropes or mechanical ventilation for clinical and physiologic reasons, were not considered to be WD. Patients who were declared to be brain dead also were included in the study, as occurred previously. However, they were excluded from the FLST. The institutional Helsinki Committee approved the study with a waiver of informed consent. Completion of the form by physicians was considered to be consent.

Data collected in 1998 were compared with the data collected in the previous study period (November 15, 1994, to July 31, 1995). Statistical analysis included the χ² test for categoric analysis and the Student’s t-test or analysis of variance for analyses of continuous data. The data are presented as the mean ± SEM. Data were considered to be statistically significant if p < 0.05.

**Results**

From January 1, 1998, through December 31, 1998, a total of 627 patients were admitted to the ICU. The mean age was 59 ± 3 years. The ICU admission diagnoses for study patients are listed in Table 1.

Seventy-seven patients died and/or had the FLST (12%). Of these 77 patients, 72 (94%) received mechanical ventilation and 70 (91%) received vasopressor agents. Although FLST occurred in 69 of the 77 study patients (90%), such FLST occurred in only 11% of the total 627 patients admitted to the ICU. In 20 of these 69 patients (29%) WH only of cardiopulmonary resuscitation (CPR) occurred, whereas in 41 of the 69 patients (59%) WH of other therapies in addition to CPR also occurred. In eight patients with brain death, all treatments were stopped. Ten patients (13%) underwent CPR without FLST. None of these 10 patients survived.

Of the 77 study patients, 67 (87%) died in the ICU. Of the 10 patients who were transferred to the wards after WH in the ICU, 8 subsequently died on the ward. Two additional patients who were transferred to the ward were later discharged alive from the hospital. The first, a postoperative patient with terminal pancreatic cancer, received supportive treatment of terminally ill patients. This directive

### Table 1—ICU Admission Diagnoses

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis/septic shock</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Trauma</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Status post-GI surgery</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Status post-cardiac arrest</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>GI bleeding</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Cardiogenic shock</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Respiratory failure</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>77</td>
</tr>
</tbody>
</table>
treatment after surgery. A prospective decision to withhold CPR and vasopressors was planned in the event of the deterioration of the patient’s condition, but the condition improved. The second patient, a female postoperative patient with chronic dementia and very poor quality of life, received supportive therapy, but treatment with CPR and vasopressors was prospectively withheld. The patient was discharged from the hospital, ventilated with a tracheotomy.

Two patients received CPR despite a previous decision not to perform CPR. In the first patient, the physician on call performed CPR. He disagreed with the prior decision not to perform CPR. In the second patient, the do-not-resuscitate order was written but was not orally communicated to the on-call staff. The do-not-resuscitate order was not found at night, and CPR was performed for symptomatic bradycardia.

Comparison Between the Periods 1995 and 1998

Comparisons of FLST, CPR, withholding CPR only, and withholding other therapies can be seen in Figure 1. There were no differences in total withholding between the time periods (90% vs 91%, respectively).

As was previously published, the FLSTs occurred in 52 of 385 patients admitted to the ICU (13.5%), and in 52 of 57 patients (91%) who died or had therapeutic limitations in 1995. Of the 627 ICU admissions in 1998, the FLST occurred in 69 patients (patients admitted to the ICU, 11%; patients who died or had limitations, 90%). There was no significant difference between these two time periods.

CPR was performed in 9% (5 of 57 patients) in 1995, vs 13% (10 of 77 patients) in 1998 (difference not significant). CPR was withheld in 92% of patients (48 of 52 patients) in 1995 vs 88% of patients (61 of 69 patients) in 1998 (difference not significant). Other therapies were withheld in 62% of patients (32 of 52 patients) in 1995 vs 59% of patients (41 of 69 patients) in 1998 (difference not significant).

In both periods, no WD or terminal weaning occurred. In both periods, all patients in whom life-sustaining treatments were forgone were unconscious secondary to their underlying disorders or sedation. Antibiotics, fluids, and nutritional supplementation were never withheld or withdrawn except as a result of medical indications.

Discussion

Over the last several decades, society has had to deal with the ethical and moral problems related to the care of terminally ill patients. Cultural, legal, and religious factors have influenced this end-of-life decision making. In more recent years, FLST has undergone significant changes, particularly in the Western world.

The present study shows that Israeli doctors accept the FLST as a valid alternative for those patients who fail to respond to treatment. The predominant FLST practice was the WH. CPR was rarely performed.

Terminal weaning was never performed. In fact, the only WD occurred in brain-dead patients, which, strictly speaking, is not a withdrawing. This practice is in sharp contrast with most American and European ICUs in which WD has become the most frequent form of the FLST. Fluid administration, nutritional support, and antibiotic treatment were never withheld or discontinued without medical indications.

Physicians are not able to accurately predict who will survive and who will die. This may influence their end-of-life decision making. During the first study period, one patient who had prospective WH with intubation, ventilation, vasopressors, and CPR survived. During the second study period, two patients survived. Both patients received supportive treatment, including antibiotic therapy, and both survived to be discharged from the hospital. The
decision to forgo heroic therapies in these patients was due to the low probability of survival and/or the poor quality of life.

Between 1995 and 1998, no significant differences in the incidence of FLST or CPR were observed. There was also no WD in either study period. This is in contrast to two other studies that have examined changes in physician behavior over time. In the first study, Prendergast and Luce compared the FLST in the same two American ICUs over a 5-year interval. They showed a significant decrease in CPR with a parallel increase in FLST. There was an increase in both WH and WD from 1987 until 1993. WD was much more common than WH. In the second study, McLean et al., in two Canadian hospitals, found a nonsignificant decrease in the incidence of CPR and a significant increase in WD between 1988 and 1993. Since WD was not discussed, comparisons cannot be made.

In contrast to these studies from North America, where WD in the ICU was the most frequent form of the FLST, in the present Israeli ICU the most prevalent method of FLST was the WH of CPR, followed by the WH of other therapies. These results are more consistent with a French study, in which WH was more frequent than WD. However, in this latter study, even though WH was more common than WD, WD still occurred much more frequently than in the Israeli ICU, where it did not occur.

Although the Israeli experience appears to differ from that of other Western countries, the data may not be directly comparable since the time frames of the studies are not the same. It should be noted that both the American and the Canadian studies were begun >5 years prior to the present study. In fact, the second study period in each of those studies occurred at approximately the same time as our initial study period. In addition, because the interval between the present two study periods was relatively short, it may not have been long enough to observe any effect of such attitudinal changes.

The lack of change observed in the Israeli ICU, despite the issuing of more recent laws and directives, as well as decisions in several court cases, is probably related to several other factors. First, in 1995 WH already occurred in 91% of the study patients. It is possible that this percentage, already in 1995, represented a maximum that is unlikely to increase further. Second, despite the previous district court case decisions, there have been no changes in the statutes or supreme court case rulings addressing this issue for terminally ill patients in Israel. In addition, unlike the American experience, European and Israeli scientific societies have not published guidelines, position papers, or official statements concerning end-of-life care. Therefore, physicians may still be reluctant in WD because they still fear legal problems and criminal prosecution. Third, although most bioethicists claim that the ethical bioequivalence of WH and WD is the same, there are, even today, many physicians in Israel who still see a difference between WH and WD. The study of Ferrand et al. supports this latter view. They reported a 56% mortality rate in patients undergoing WH, whereas the mortality rate exceeded 90% in patients undergoing WD. Similar results were reported by Keenan et al. Fourth, the fact that withdrawal did not increase between the study periods could also reflect local or cultural aspects. Jewish law, or halacha, forbids the WD. Physician religion has been shown to be important in end-of-life practices. Although many physicians may be influenced by Jewish law, the majority of the population and doctors are secular Jews who might change their practices based on factors other than religion. Finally, and perhaps most important, the lack of change is most likely related to the lack of change on the part of physicians. Doctors are probably not affected by societal attitudes, including a patients’ rights law or court cases, without a specific alteration in the law concerning end-of-life decisions. This is especially true in southern European countries that have a paternalistic patient-physician relationship, as noted in the recent Ethicus study.

In conclusion, no significant change in FLSTs was observed between 1995 and 1998. In the Israeli ICU that was studied, the withholding of life support remains the only means of FLST at the end-of-life. These findings have implications for other southern European countries, such as Israel, that also have conservative end-of-life practices and paternalistic approaches.

**References**

11 Ishay R. Can the position of Israeli physicians on the issue of "the right to die" be determined? Harefuah 1996; 130:288–291