Motivating Factors in Futile Clinical Interventions*

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With modern medical technology, it is now possible to sustain life for prolonged periods in critically ill patients, even when there is no reasonable hope of improvement or achieving the goals of therapy. Such futile and medically inappropriate interventions may violate both the ethical and medical precepts generally accepted by patients, families, and physicians. In this study, we sought to determine who was primarily responsible for such interventions, the nature of their motivation, and the role of a timely bioethical consultation. In a retrospective review, we identified 100 patients of 331 bioethical consultations who had futile or medically inappropriate therapy. The average age of patients was 73.5 ± 32 years (mean ± 2 SD) with 57% being male. Fifty-seven percent of the patients were admitted to the hospital with a degenerative disorder, 21% with an inflammatory disorder, and 16% with a neoplastic disorder. The family was responsible for futile treatment in 62% of cases, the physician in 37% of cases, and a conservator in one case. Unreasonable expectation for improvement was the most common underlying factor. Family dissent was involved in 7 of 62 cases motivated by family, but never when physicians were primarily responsible. Liability issues motivated physicians in 12 of 37 cases where they were responsible but in only 1 of 62 cases when the family was responsible (χ² 5 degrees of freedom = 26.7, p < 0.001). When the bioethics consultation resulted in cessation of the therapy, patients died in a median of 2 days as opposed to 16 days if therapy continued (p < 0.001).

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Key words: bioethics; futility; medically inappropriate

Abbreviation: df = degree of freedom

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Significant prolongation of life has been made possible by remarkable advances in medical technology. Although such extension of life through medical intervention may lead to meaningful attainment of goals, there are occasions when such interventions will never achieve the patient’s desired level of function. Therapies that prolong life despite outcomes that are both ethically and medically unacceptable are deemed futile and medically inappropriate. Therapies that have even a low probability of clinical benefit or even a minimal chance of achieving a patient’s goals may not be absolutely futile. It is those patients for whom outcomes are such that hospital stay is lengthened without hope of achieving any realistic goal that have led to serious ethical, medical, and societal dilemmas.

Ethically, society is very concerned about denial of treatment, even when outcomes are hopeless. The time-honored orientation of medical personnel is toward the preservation of life at all costs, an attitude that often overshadows realistic medical expectations. The issues of treatment in the desperately ill are fraught with emotional distress on the part of the patient, family, and physician. Interventions with no hope of a successful outcome impose a tremendous burden on societal resources. It has been well established that a major expenditure of health-care dollars occurs during the last 6 months of life.
more, in this era of increasing managed care, patients and families may believe health-care systems are protecting their own economic interests over what is best for patient care.9,10

While many articles have been written discussing the ethical issues surrounding futile care11 and a smaller number have addressed medically inappropriate care, there has been no study to date that has attempted to rigorously define the people and factors that lead to these interventions. We sought to determine the types of patients who receive futile or medically inappropriate interventions, which parties were the driving force behind these interventions, and what factors motivated them. In addition, we analyzed the role of a timely bioethical consultation in curtailing such interventions.

 MATERIALS AND METHODS

In 1995, a formal Bioethics Program was instituted at Cedars-Sinai Medical Center. One of its principal functions has been to encourage, organize, and document bioethical consultations. The patient, the patient’s family, or any member of the health-care team may request such consultations. The consultation is performed by a specially trained and specially privileged team consisting of a physician, a nurse, and a social worker. Meetings are held with families and health-care providers in an unhurried manner designed for discussion, clarification, and evaluation of goals, values, and outcomes. Although the approach is aimed primarily at facilitation of decision making, the ethical approach is also presented by the consultation team. The results of the consultation are promptly summarized on the patient’s chart. Records and pertinent information are also kept in a confidential file in the Bioethics Program office.

Not all of the consultations involved futile or inappropriate medical treatment. Of 331 records, 100 sequential cases were identified by two of the authors as meeting the criteria of futile treatment plans. At a minimum, two conditions needed to be met for cases to be included in this study. First, a bioethics consultation needed to be performed (some patients died before a consultation was performed). Second, the patient must have died during the current hospital stay. From this starting point, the reviewers included all patients in whom therapy was being rendered without hope of achieving the patient’s minimally acceptable outcome (futile) or with little hope of any outcome other than postponing death (medically inappropriate).

Basic demographic information included gender, age, and religion. The nature of disease and nature of terminal event were grouped into one of five major categories: (1) congenital; (2) traumatic, as in injuries sustained in a motor vehicle accident; (3) degenerative, such as intracranial hemorrhage or myocardial infarction; (4) inflammatory, for example, pneumonia or inflammatory bowel disease; and (5) neoplastic, such as colon cancer. The nature of the disease was defined as the condition that precipitated admission to the hospital or constituted the patient’s underlying disorder. The nature of terminal event was the disease process that ultimately precipitated the patient’s demise. As an example, if a patient was admitted for a hip fracture and then developed a perioperative myocardial infarction and died soon after, the nature of disease would be classified as traumatic and the nature of terminal event would be degenerative.

From the information on the chart, we sought to determine the party who was most responsible for the futile or medically inappropriate interventions being delivered and what factor principally motivated them. We determined the time in the hospital before the ethics consultation was obtained, as well as the number of days after the ethics consultation that the patient died. Finally, we determined whether the ethics consultation led to the discontinuation of the futile or medically inappropriate therapies. The approximate cost of a hospital day was determined using the California Office of Statewide Health Planning and Development data for all the inpatient facilities in California. The total amount of cost was divided by the number of patient-days spent in these facilities. Although this cost includes many surgical procedures, we believe this number is justified, as most of our patients were in an ICU and many had surgical procedures performed.

Statistical calculations were performed using software (Excel; Microsoft Corporation; Redmond, WA; and WinStat; Kalmia Corporation; Boston, MA). Parametric data are expressed as the mean ± 2 SD. The median data point, range, and interquartile range are given for nonparametric data. To evaluate differences in frequencies, crosstabulation techniques were utilized to develop χ² statistics or a Fishers’ Exact Test p value. Correlations with age were done using a Student’s independent t test.

RESULTS

Clinical Features

The average age of the patients was 73.5 ± 32 years (mean ± 2 SD). Fifty-seven percent of the patients were female, and the remaining 43% were male. The religious makeup was as follows: Jewish, 43%; Catholic, 15%; no religion, 15%; unknown, 12%; other, 8%; and Protestant, 7%. Fifty-seven percent of the patients were admitted with a degenerative disease process, 21% with an inflammatory process, 16% with a neoplastic disorder, and the remaining 6% were admitted secondary to a traumatic event or a congenital disorder. However, the nature of the terminal event was degenerative in 42%, inflammatory in 44%, neoplastic in 12%, and due to a congenital disorder in 2%.

Underlying Factors

In most cases, multiple parties and factors led to the delivery of the futile or medically inappropriate care. However, we sought to narrow this down to one principal responsible party and one major factor. The three parties we were able to identify were the family in 62% of cases, a physician in 37%, and a conservator in one case. None of the patients were able to participate in the decision-making process of their own care since they were universally too impaired. The principal factor implicated was an unreasonable expectation of improvement in 58% of the cases. Other factors were fear of legal consequences in 14%, religion in 9%, guilt in 7%, family dissent in 7%, and patient desire in only 5%.

Physicians feared legal liability in 12 of 37 cases where they were primarily responsible for the deliv-
ery of the futile or medically inappropriate care, as opposed to family members who considered legal consequences in only one of 62 cases ($\chi^2$ 5 degrees of freedom [$df$] = 26.7, $p < 0.001$). The final case where legal issues were the primary motivating factor was primarily driven by a conservator.

While dissent among family members motivated the interventions in 27 of 62 patients for whom the family was responsible, it did not play a role in the 37 patients for whom the physician was the responsible party ($\chi^2$ 1 $df$ = 10.4, $p < 0.001$). Ethics consultations were effective in 39 of 71 cases when the patient had a known religious preference, compared to 20 of 27 cases when the patient did not ($\chi^2$ 1 $df$ = 3.0, $p = 0.07$). While religious reasons were expressly cited in only a small number of cases, our experience has shown that religious issues are present in many more cases than were found with our screening instrument.

Consequences

Patients were in the hospital a median of 16 days (range, 1 to 102 days; interquartile range, 8 to 30) before a bioethics consultation was obtained. Consultations were effective (defined as leading to a cessation of the futile or medically inappropriate therapy) in 59% of cases. In two cases, the patient died before any action could be taken based on the consultation. In cases where the bioethics consultation was effective, patients died in 2 days (range, 0 to 102 days; interquartile range, 1 to 4), whereas when the consultation was ineffective, patients did not die for 8 days (range, 0 to 157 days; interquartile range, 5 to 1; $p < 0.001$). Ethics consultations were effective in 28 of 36 cases where a physician was primarily responsible, but only 31 of 61 when family was responsible ($\chi^2$ 1 $df$ = 6.9, $p = 0.007$). Age did not determine whether a consultation was effective or not. The California Office of Statewide Health Planning and Development lists the average price per patient-day as $1,810 (total operating costs divided by patient-days). Using these data, the cost savings per patient receiving futile or medically inappropriate care would be $10,860 per patient where futile care can be stopped.

Discussion

Our study is unique in evaluating futile and medically inappropriate care on a practical rather than a theoretical basis. We sought to minimize the ambiguity in the definition of futile or medically inappropriate care by selecting patients who died during the hospital stay without a period of marked improvement. This care is most often given to elderly patients with degenerative disease processes. This is not surprising given that these are the patients most likely to have disorders where the chance of success is minimal. Also as expected, these patients usually succumbed to inflammatory disorders or to their original disease.

While families were the principal responsible parties in a majority of cases, it was surprising how often physicians were the primary motivating party in the delivery of futile or medically inappropriate care. However, physicians were much more likely to site fear of legal consequences or misunderstanding of the legal issues and very often responded favorably to bioethics consultations. Despite these facts, there were still many cases where physicians expected unrealistic outcomes despite the intervention of a bioethics consultation. In these cases, hospitals may need to institute peer-review systems where physicians in the same specialty could review the case and discuss whether there is any foreseeable medical benefit to be obtained from the intervention being pursued.

Whereas religion was only noted as the primary factor in a small number of cases, it may play a larger role in futile and medically inappropriate interventions. However, in our data, there was not a statistically significant difference in the effectiveness of a bioethical consultation in cases where the patient stated a religious preference compared to those who did not.

Finally, we believe this study demonstrates the benefit of a timely bioethical consultation in ameliorating needless patient suffering and in reducing unnecessary costs. The ability of anyone in the patient’s orbit or anyone on the health-care team to initiate a consultation expands the responsibility and increases the frequency of such consultations. In our opinion, this has been a useful activity, the basic pattern of which should exist in all hospitals.

References

4 The SUPPORT Principal Investigators. A controlled trial to improve care for seriously ill hospitalized patients: the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT). JAMA 1995; 274:1591–1598
8 Doty WD, Walker RM. Medical futility. Clin Cardiol 2000; 23:(II)6–16
9 Eddy DM. Clinical decision making: from theory to practice; the individual vs society; resolving the conflict. JAMA 1991; 265:2399–2406