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## CASE STUDIES IN MEDICAL FUTILITY

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### ABSTRACT

Technology has provided means to sustain life and provide care regardless of whether the treatment is appropriate and compassionate given the condition of the patient. This study presents two case histories, compiled from historical patient charts, staff notes and observations, that illustrate the variety of ethical issues involved and the role culture plays in the decision making process related to possible futile medical treatment. Ethical and cultural issues related to the cases are discussed and processes are presented that can help hospitals to avoid, or decrease the level of, medically futile care, and improve the cultural appropriateness of medical care and relationships with patients.

Keywords: medical ethics, medical futility, end of life care

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## INTRODUCTION

Modern technology has provided means to sustain life and provide care regardless of whether the treatment is appropriate and compassionate given the condition of the patient. Willis and Sikula suggest that advances in medical technology have led to ethical questions and concerns, especially at the End of Life (EOL) stage (Willis and Sikula 2004). Doty and Walker state that a variety of issues must be dealt with regarding medical futility, including ethical, legal, socio-cultural, economic and medical concerns that might affect the decision making process (Doty and Walker 2000).

Medical futility is a term used by physicians and medical ethicists to denote the inappropriate application of medical interventions to patients who have no potential for benefit (Doty and Walker 2000). Schneiderman, Jecker and Jonsen proposed the concept of medical futility, measured qualitatively as not ending dependence on intensive medical care, and quantitatively as having less than a 1 in 100 chance of benefiting the patient. They refuted criticisms related to assertion of power by physicians over patients in determining futility (Schneiderman, Jecker and Jonsen 1990 and 1996). Tan defined medical futility as a treatment or medical intervention that cannot bring reasonable improvement to a patient's quality of life (Tan 1995). Treatment must offer a benefit, whether or not it achieves a physiologic result, in order to be deemed not futile. Treatment that does not change the current state or maintains a state of permanent unconsciousness or dependence upon intensive medical care may also be deemed futile. Treatments can be classified as not futile, futile, futile from the patient's perspective or futile from the clinician's perspective (McConnell 1997).

End of Life (EOL) decisions regarding the withdrawal or withholding of life support and futile care have become commonplace within the ICU/CCUs. The concept of futile care is

controversial and difficult to define. Efforts to prolonging life once considered an outcome of healing may be viewed by some as harmful acts of prolonging suffering (Romesberg 2003). The costs of futile care for the dying are enormous. Futility can present challenges because of the monetary cost of such care, its negative effect on staff members and the burden it creates on the patient family and the clinicians (Coppa 1996).

This paper applies the concept of medical futility to assess ethical concerns in determining the potential benefit of Continuous Renal Replacement Therapy (CRRT) using case histories of care for critically ill patients. Continuous Renal Replacement Therapy is the preferential mode of dialysis for various critical conditions due to its safety and efficiency. Perhaps the most important advantage is that this therapy is considered appropriate for ICU patients, given the continuous process involved in the regulation or removing of fluids (Dirkes 2000; Kellum et al. 2002). To date, CRRT represents a typical high tech intervention that improves or solves specific problems such as acute renal failure, overhydration and electrolyte imbalance. However, CRRT lacks good evidence regarding benefit, coupled with increased costs associated with the procedure. This fuels an ongoing controversy regarding the optimal way to manage acute renal failure in the ICU/CCU, with significant variation in practice and mortality rate from 33.3% to 82.1% (Kellum et al. 2002). This fact has raised ethical issues about the utilization of the procedure. The best known supporters of CRRT have even stated “Our ICU patients keep dying at unacceptable rate, as researchers and clinicians we have the ethical duty to explore possibilities to improve their outcomes and their quality of life, CRRT certainly has the potential for future interventions” (Ronco and Bellomo 2001). On the other hand, Zamperetti et al. reported in a study of the first international course of critical nephrology, that only 55% of

nephrologists believed that informed consent was necessary for initiating CRRT and 25 % would start or maintain unwanted CRRT (Zamperetti et al. 2000).

In a separate study, the authors of this manuscript examined the clinical characteristics and hospital costs for 117 patients undergoing CRRT between January 1999 and August 2002 in a Texas hospital. Overall mortality for all patients undergoing CRRT was 72%. The average length of hospital stay was 17 days, ranging from 1 to 74 days. Average estimated costs were \$50,762, with a range of \$3,518 to \$147,856 (Belavadi et al. 2004). As a result of these study findings, the authors developed two case histories based on this set of patients to illustrate the variety of issues involved in the decision making process related to possibly futile medical treatment.

## **METHODOLOGY**

The authors developed two clinical case histories from a study that analyzed 117 cases of CRRT within a hospital during two years of study. The case histories have been compiled from historical patient charts, case management and social worker notes, observation of the organizational dynamics within the ICU, and the follow-up of the researchers with their cases. Modifications from the real cases have been made to illustrate clearly ethical dilemmas observed during the study period.

## **CASE STUDIES**

### **Case I**

A 74 year-old black male was admitted to the hospital to the Intensive Care Unit from a nursing home. He had a long history of hypertension, diabetes and coronary artery disease with coronary artery bypass surgery. Apparently he had been experiencing worsening of respiratory status secondary to pneumonia and pre-existent end-stage renal disease. Also he had myocardial

infarction noted by elevated Troponin levels. The patient was on a ventilator and could not communicate. Due to the poor prognosis the family had agreed to Do Not Resuscitate (DNR). During the evening the resident noticed acute renal failure and called the nephrologist, who decided to connect the patient to CRRT and convinced the family to provide the informed consent to place the catheter for the dialysis. The patient died 5 days later having received CRRT during that period.

### **Discussion of Case I**

Case I provides an example of paternalism on the part of the resident and nephrologist. Even though the family had previously agreed to DNR orders, apparently recognizing the poor prognosis for the patient, the health care providers made the decision to utilize advanced methods in an effort to extend and/or improve the life of the patient. In this case it is difficult to determine whether connecting the patient to CRRT provided any marginal benefit during the five days the patient remained alive. Beneficence (providing care that benefits the patient) and nonmaleficence (withholding treatment that does not provide a benefit to the patient) dominate the Hippocratic tradition; however, in Western healthcare ethics, respect for patient autonomy and liberty rights are usually more important (Branigan and Boss 2001). In this case, the health care providers did not give priority to patient autonomy as represented by the family, or to the social and cultural context of caregiving and quality of life. Given the prognosis and the terminal outcome of the case, they could have not chosen CRRT and proceeded with an alternative treatment, such as focusing on end-of-life care or hospice, if in keeping with the patient's and family's preferences. The patient may have expired sooner, which would have resulted in possibly less suffering for patient and family, less cost to the patient's family, the hospital and

other payers, and in a strict economic sense, made better use of available resources with less cost to the patient and society in general.

## **Case II**

The patient was a 68 year-old Hispanic male with a previous history of myocardial infarction with cardiogenic shock, longstanding diabetes mellitus, essential hypertension and chronic renal failure who was on dialysis. He did very well until he developed an acute onset of respiratory distress, necessitating intubation and mechanical ventilation. The patient's condition became progressively unstable and he was admitted first to the ER and then to the Critical Care Unit for acute therapeutic intervention.

The following information was obtained from the social worker and the researcher's observations. The patient was monolingual Spanish-speaking and did not have any advance directive. The patient's insurance was self-pay and the family in general had low income. The 67 year-old spouse did not know what to do and wanted to delegate responsibility to one of her daughters. The family did not have a unanimous course of action. Two of the five daughters were leaders, but in opposite camps. One wanted to do as much as possible and the other one wanted to follow "the Lord's wishes" as her father requested to her. A family conference was scheduled for that evening, but the social worker was excluded from it by the physician's instructions. CRRT was ordered and put into place the next day (Friday). The researcher observed that the patient was left with Dr. X's clinical protocol of CRRT treatment; however, the physician left for a week for a conference. The attending nephrologist for the weekend changed the protocol to his own protocol for CRRT, as this unit did not have a common protocol for this procedure. The patient died three days after the hospitalization from a sepsis secondary to a right pneumonia.

## **Discussion of Case II**

Case II provides an example of the difficulties that may be encountered when culture and communication play a role in ethical decisions. In this case, possible barriers that prevented the patient and family from exercising the full extent of patient autonomy afforded to them included: lack of knowledge of the health care system, having to communicate in a second language, and a cultural belief system that may have hindered some of them from being exercising empowerment to make decisions. In spite of the fact of the patient's long history of chronic disease, there was no advance directive in place, which forced the patient's family to make decisions on behalf of the patient at the last minute. The family was not in agreement on the course of treatment and set up a family conference, however, the hospital social worker, presumably with expertise and experience in guiding families through similar decision processes, was excluded from the meeting. The exact reason for excluding the social worker was unknown, but it might have been due to paternalism on the part of the physician, and/or motivated by monetary incentives. There was no standard, agreed upon CRRT protocol for the unit, which allowed the weekend attending nephrologist to alter the treatment regimen without consulting with the physician who ordered the treatment. There was no mention of family counseling with respect to other end-of-life care treatment alternatives, which given the self-pay status of the family, may have been a more reasonable alternative from an economic perspective.

### **Comparison of Cases**

The above case history scenarios can be compared on ethical, social and cultural issues. Both represent cases of critical care that resulted in insufficient involvement by patients and families in decision-making for a costly treatment, with outcomes of medical futility. In Case I, without knowing if the patient had an advance directive or a living will, the decision for costly, high-technology treatment was made without considering alternatives such as palliative care, and



medical paternalism was met with apparent acquiescence by the family, on behalf of the patient. However, this may have reflected desire of family members to ensure equal treatment for an African-American patient, given the social history of health care discrimination in the United States. Also research has shown that most hospital inpatients in the United States prefer life-sustaining treatments when offered this choice (Fried et al. 2002).

In Case II, the patient had no advance directive, and exclusion of the social worker from the family conference may have hindered family decision-making or deviated from hospital policy, although in itself this did not directly violate bioethical principles. Cultural influences on patient preferences and family decision-making, such as fatalistic religious beliefs, are found among both Mexican- and African-Americans, but vary within each group according to social status and education. However, fatalism would have led to rejecting the treatment offered by the physician, yet this treatment was accepted by the patient and family, so the influence of the physician was decisive.

## **CONCLUSIONS**

Since interventions deemed as futile offer no benefit to patients, physicians are not obligated to offer futile interventions based upon the ethical principle of beneficence. The ethical principle of justice requires physicians to be good stewards of health care resources, which also supports not providing futile treatments (Aube and Pfitzenmeyer 2003; Doty and Walker 2000). Doty and Walker reported that over ten percent of all health care expenditures are expended during the last year of life, with a significant portion spent on hospital care that is futile or of marginal utility (Doty and Walker 2000). The concept of moral hazard may exist from an economic point of view, as most patients are not directly responsible for their medical expenses due to insurance, Medicaid, Medicare or indigent status.

The role of patients in care decisions varies, as those with limited knowledge and access may be most concerned about accessing care. However, more informed patients and their families can become highly involved in making decisions about care due to increased patient autonomy, greater availability to medical information, more treatment options, rising costs, and increased prevalence of chronic illness (Aube and Pfitzenmeyer 2003).

Processes that can help to avoid, or decrease the level of, medically futile care include: development and implementation of treatment protocols; moving to a team approach in the care giving process; culturally-sensitive patient and family education and care, including understanding the function and use of an advance directive and end-of-life care (hospice) as an alternative treatment for terminal patients; use of ethical consultation for the hospital ethics committee; and education on the ethics of EOL for health care providers (Galanti 1991). Ethics committees involve groups of individuals from diverse backgrounds who support health care institutions with three major functions: providing ethics consultation, developing and/or revising select policies pertaining to clinical ethics (e.g., advance directives, withholding and withdrawing life-sustaining treatments, informed consent, organ procurement), and facilitating education about topical issues in clinical ethics (Pearlman 1998).

Hospitals should ensure they develop, implement and monitor standard treatment protocols for CRRT and other cost-intensive procedures. The use of protocols should help in the decision making process about whether a procedure or therapy is appropriate for a patient given their current health condition, aiding providers and patients and their families. Protocols would also help to standardize care across physicians, so that orders are not changed depending upon the physician on duty without reasonable justification (Rubenfield 2004). The use of a team approach to the care giving process can help to improve communication among health care

professionals and between staff and patients/family members. The team approach also may provide synergy in the blending of expertise, which should result in improved patient care (Azoulay and Sprung 2004).

The concepts of autonomy and paternalism may be different in the Hispanic culture, in particular among Mexican-Americans as well as other Latinos, compared with the European-American culture. Religious beliefs, specifically fatalism, traditionally play an intrinsic role in decision making processes for Mexican-Americans. Of utmost importance is the strong faith in – and reliance on – God. Mexicans often have the attitude “if something happens it’s ok because God gave it to me” or “Life support isn’t any good. If God wants you, he’ll take you” (Sullivan 2001). In this context, critically-ill patients and their families would be expected not to have advance directives or to request extraordinary or high-technology treatments to sustain life.

Patients and families would benefit from additional education regarding health care decisions, especially those concerned with end-of-life care. Hospitals might consider outreach education that addresses issues such as advance directives and hospice care before the fact rather than waiting to address them during the time of crisis when patients and families may be less able to make rational and informed decisions. Doing so would give consumers more time to think, ask questions and make informed decisions. Hospitals should ensure the development of culturally sensitive and appropriate education based on the patient demographics (Azoulay and Sprung 2004; Carlet 2004).

Patients who died in the ICU did not have informed discussions of end-of-life or palliative care as an alternative treatment option before admission. The quality of end-of-life care was disrupted for patients with fatal pre-existing chronic disease who were admitted to the ICU before death. Lack of clinical experience, knowledge and competency with end-of-life care

influenced admission of patients to ICU regardless of poor prognosis. Decisions regarding the pursuit of aggressive therapy versus palliative care must be addressed with patients by physicians who are competent and experienced in end-of-life care as this will have a profound impact on both the quality of care delivered and effective use of limited hospital resources (Aube and Pfitzenmeyer 2003; Rady and Johnson 2004).

Finally, health care professionals should be qualified to discuss critical care treatment and end-of-life issues with patients and their families. This may require continuing education to ensure that professionals are informed on the different options available and are able to address these issues in an ethical, culturally sensitive and appropriate manner. Both patient and provider benefit from the delivery of appropriate and thoughtful care and treatment, which boosts the hospital's standing in the community as well.

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