

Limitation of Life Support in the Critically Ill: The Hong Kong Perspective

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Abstract

Introduction: Patients admitted to the intensive care unit (ICU) may not benefit from the life support provided and it may result in prolonged and unnecessary suffering. Limiting life-support therapy in this situation is an ethically acceptable practice in Western countries. Statements produced by professional bodies have been generally made from a Western perspective. Cultural influences, aspects of management and resource limitations may create differences, yet there is little information available on the ethical decision making processes involved in limitation of life support in Asian countries. This article reviews the processes involved in the limitation of life support in critically ill intensive care patients in the predominantly Chinese population of Hong Kong. **Methods:** Direct and computerised search of locally available and international published research articles and opinions. **Results:** Limitation of life-support therapy occurs in 23% to 61% of critically ill Chinese patients that die within the ICU which is comparable to figures presented in the Western literature. Relatives wish to be part of the decision making process when limitation of therapy is to be considered. A staff attitude of caring towards patient and family, a need for information from the doctor and staff, and competence in providing adequate treatment have been identified as important factors by relatives when limitation of life-support therapy was being discussed. **Conclusions:** Limitation of therapy in dying Chinese patients occurs in ICUs and, patients and relatives concur in 95% of cases with medical decisions to limit therapy in these patients. The importance of communication as well as a desire to participate in the decision-making process regarding limitation of therapy suggest similarities between Western and Asian expectations. More comprehensive data are required regarding end-of-life issues in the Asian context, especially in relation to the general population's perception as to the processes involved.

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Introduction

Technological advances over the last 30 years have had an enormous impact on the way in which medicine is delivered today. This is particularly so in the specialty of intensive care where intensivists possess the necessary knowledge and tools to prolong life in many situations where patients would previously have died. The same knowledge and tools, however, have also given intensivists the ability to postpone inevitable death in some cases. This has resulted in greater interest in the ethical issues surrounding the limitation of life support in intensive care patients. This debate regularly surfaces in Western countries and focuses primarily on the principles and individual rights of patients. In particular, Western philosophy focuses on patient autonomy, beneficence, non-maleficence and distributive justice.¹ Do these same principles apply to different cultures? As the world's population becomes more racially intermixed, questions regarding the cultural dimensions of ethical decision making processes

become even more complex. The application of ethical principals in different cultures where Western medicine is practised, yet the predominant population is Asian, may potentially cause conflict. This article, while not attempting to answer all these questions, will present data and opinions enabling some conclusions to be drawn about limitation of life support in critically ill intensive care patients in the predominantly Chinese population of Hong Kong.

The Hong Kong Medical System

Ninety-five per cent of the Hong Kong population is predominantly of Chinese descent, but there is a strong Western cultural influence in all facets of life.² There is also a growing Mainland Chinese population, which has not been so exposed to Western culture, or to the affluence of Hong Kong. The Hong Kong medical system is primarily a Western one in its approach to the provision of health care. The health care system in Hong Kong consists of both

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the public and private sectors. Funding of the public sector is primarily by the Hong Kong Government. The Hospital Authority manages all public hospitals, two of which are supported by medical schools. Public hospitals provide more than 90% of secondary and tertiary care.³

Among the public hospitals, there are a variety of levels of medical and surgical ICUs, high dependency units (HDUs), coronary care units, paediatric ICUs, neurosurgical units and neonatal units. Broadly, three levels of service are provided which basically correspond to the classification of intensive care facilities described by the Faculty of Intensive Care of the Australian and New Zealand College of Anaesthetists.⁴ Critically ill patients who require intensive monitoring and therapeutic intervention are admitted to the ICUs of the major acute hospitals. These ICUs are capable of managing all aspects of intensive care medicine. Less severely ill patients who require only brief periods of support are placed in HDUs.

Intensive care resources are extremely limited and ICUs are generally of the closed type where triage of admissions to and discharges from the ICU, and patient care becomes the responsibility of dedicated full time intensivists. In March 2000, 1.9% of available acute beds in 13 major acute hospitals were ICU/HDU beds (range 0.8% to 4.1%).⁵ In Hong Kong, it has been suggested that the reasonable number of intensive care beds would be not more than 3% of acute beds.⁶ There are few established guidelines or recommendations on the ratio of ICU beds to population. In Australia, the average number of ICU beds is 7.5 per 100,000 population. There are currently 4.1 ICU beds per 100,000 population in Hong Kong.⁵

Public hospital ICUs are staffed by intensive care doctors who undergo training in intensive care medicine via one of two streams—Anaesthesia-based or Internal Medicine-based. The prerequisite training period of 6 years is under the auspices of the Hong Kong College of Anaesthesiologists or the Hong Kong College of Physicians. Paediatric ICUs are usually extensions of neonatal units and patients are cared for by both paediatricians and neonatologists. Paediatric cases are also admitted to general ICUs where they are cared for by adult-trained intensivists in consultation with paediatricians. Paediatricians rely on overseas experience as there are no formal training programmes for paediatric intensive care within the Hong Kong College of Paediatricians.

ICUs in major acute Hospital Authority hospitals have established local admission and discharge guidelines, which set out the broad principles of triage according to severity of illness and the relative potential for recovery. These decisions are either based on an individual ICU policy or are at the discretion of the individual physician. Intensivists serve as gatekeepers using these guidelines.

The Doctor–Patient–Family Interaction

In traditional Chinese society, the individual is viewed primarily as a member of a family. Individual rights therefore are considered less important than self-expression and self-determination. Family relationships assume greater importance and these concentrate on one's responsibilities to the family. Greater emphasis is placed on community values such as harmony, responsibility, and respect for parents and ancestors. Specific areas of cross cultural conflict include: the role of the patient and family in medical decision making; the disclosure of unfavourable medical information to critically ill patients; and the discussion of limitation of life support in critically ill dying patients. When one member of the family is sick, other family members will frequently shoulder the responsibility for ensuring that the patient receives appropriate medical treatment. Health care decisions are often made by the family as a group but it is not unusual to find members of the older generation of a family shouldering the responsibility for a difficult decision.

In Chinese culture, it is generally believed that the patient should be protected by the family. In the midst of severe illness, a patient is considered unable to bear the reality of the disease. It is therefore considered inappropriate to discuss the patient's illness with him or her. Therein lies a problem with truth telling in Chinese culture where the patient does not require full knowledge. Western culture regards truth telling as an important extension of individual autonomy and therefore decisions cannot be made by patients unless they have been informed of the facts surrounding their illness.

Chinese patients, in particular the elderly, view doctors as authoritative figures. Medical decision making is often left in the hands of the doctor. With greater ease of access to medical information and an increase in the public's medical knowledge, this practice has slowly changed especially amongst the younger generation. Greater affluence and increasing exposure to Western cultural norms has enabled patients to more actively assert their rights of self-determination. Previously the medical profession did little to share its knowledge of a patient's medical condition with the patient or his/her family. Ten years ago, it was extremely common for patients to know nothing of their medical condition, the names and purpose of the drugs they were taking and the likely course of the medical illness.

In Western cultures, ethical decision making is driven by four principles which are not mutually exclusive: patient autonomy (self-determination), beneficence (promotion of well being), non-maleficence (to do no wrong) and distributive justice (fair distribution of limited resources). Ethical principals, it is argued, have universal application

but there is evidence that the cultural beliefs of different ethnic groups may influence these principles.⁷

In Chinese culture, there are diverse views on the dying process.^{8,9} There is the common and more traditional view that life should be preserved at all costs and that the medical profession should do everything possible to preserve life. This view is further reinforced by the medical profession, which feels that everything should be done for patients for fear of litigation. In a minority of patients, due to the influence of Buddhism and Taoism, the transitory quality of life and the abandonment of the futile effort of resistance is stressed. In these patients, it is believed that nature should be allowed to take its course during the dying process and that aggressive medical interventions to prolong life should be avoided.

Definitions

Life-support therapy in the ICU can be defined as any treatment intended to treat or correct life threatening infection, haemodynamic instability, poor tissue oxygenation, or biochemical or haematological derangements. This may include intravenous fluids, or any other supportive therapy. Withdrawal of therapy can be defined as the cessation or removal of established life-support therapy including vasopressors, oxygen, mechanical ventilation or renal replacement therapy. Withholding of therapy is defined as not starting a new or not escalating existing medical therapy thought to be necessary for continued life support. The withholding of resuscitation occurs where continuation of appropriate medical treatment to the point at which death is considered inevitable, is followed by a conscious decision not to initiate cardiopulmonary resuscitation (CPR).

Limitation of Life Support in the ICU

Many patients admitted to the ICU do not benefit from the life support provided and this may result in prolonged and unnecessary suffering. Limiting life-support therapy, either by withdrawing or withholding support in such patients is generally accepted as an appropriate and ethically acceptable practice in Western countries. Studies have been carried out predominantly in Western countries and statements produced by professional bodies concerning life-sustaining therapy have been made from a Western perspective.¹⁰⁻²⁰ Generally, these guidelines suggest that the process involved in consideration of limitation of therapy should be initiated by a health-care professional, who should assume primary responsibility for co-ordinating communication among those involved in the decision to limit or forego therapy. In addition, they recommend that patients and relatives should be regularly involved in discussions regarding therapy and that it is ethically appropriate and prudent to discuss limitation of therapy. It

is recommended that decisions and the rationale for limitation of therapy are documented in the medical record and that such decisions are conveyed to all parties concerned in the management of the patient.

In Asian countries, there is little information available on the ethical decision making processes involved in limitation of life-sustaining support in critically ill patients.²¹ The experience of the USA and Europe cannot necessarily be extrapolated to Asian countries where cultural differences, aspects of management and resource limitations may differ. In Hong Kong, it is very unusual for patients to die at home even if death is expected. Living conditions are cramped by Western standards and support services in the community are limited. Critically ill patients usually arrive suddenly and unexpectedly in the ICU. The illness may be chronic in nature with an acute event precipitating a patient's deterioration. Even under these conditions, both patient and family may not have addressed the issue of the possibility of dying. Indeed, both a patient and family may have little information and understanding about the patient's medical condition. Hence, a patient's wishes are rarely established prior to an acute deterioration in health.

In a local survey in 1998, 50% of major acute care Hospital Authority hospitals used guidelines for do-not-resuscitate (DNR) orders. Of this 50%, half used guidelines endorsed by the Hospital Authority Central Ethics Committee. One unit considered this a medical decision while another suggested that all patients within the ICU should undergo resuscitation until death.⁵ There is, therefore, considerable flexibility within the health system and hence great variations in medical practice with regards to DNR orders.

A prospective study from Hong Kong examined the frequency and the decision-making processes involved in limiting (withdrawing and withholding) life support in critically ill Chinese patients in the ICU.²² Limitation of life support occurred in 61% of critically ill patients in the ICU who eventually died. This figure is similar to that from Western populations where limitation of life support is reported in 40% to 70% of intensive care deaths.²³⁻²⁹ Recently, the national survey of current North American practice involving end-of-life care, reported that life support was either withheld or withdrawn in 50% of patients dying in 131 ICUs.³⁰ The range of limitation of life support was between 0% and 80%, which probably reflects a lack of consensus guidelines regarding limitation of life support. The reported incidence of limitation of therapy in Hong Kong Chinese patients is, however, considerably higher than that of Singapore. Within a medical ICU, 23% of dying patients had limitation of therapy,³¹ while in a retrospective analysis of 200 elderly patients (age >65 years) within a medical ICU, 23.5% had limitation of life support,

6 of whom survived until discharge from hospital.³²

In Hong Kong, almost half the patients in whom there was limitation of life support had therapy withheld. This compares with a figure of 10% in the recent North American study.³⁰ In Hong Kong Chinese patients, withholding life support as opposed to withdrawal of life support occurred more frequently than in North American populations. This probably reflects a cultural bias. The most common reasons for limitation of life support were multiple organ failure syndrome associated with chronic ill health or carcinoma and poor neurological prognosis following cardio-respiratory arrest, which are in keeping with others' findings.³³ In patients in whom the outcome was less clear, decisions regarding limitation of life support were made later in the course of an illness. In patients with no limitation of therapy, therapy was generally increased until a point of physiological futility was reached. For example, inotropes were increased until doubling of the dose produced no demonstrable change in cardiovascular parameters.

Thirty years ago, most patients died in the ICU following CPR. However, as limitation of life support has become more prevalent, the proportion of patients undergoing CPR has similarly decreased. In the Hong Kong study,²² only 11 patients (2.1%) underwent CPR at the time of death. In the national survey of end-of-life care for critically ill patients in North America, 26% of dying patients received full ICU care including failed CPR.³⁰ Again, there was a wide variation in practice among the 131 ICUs surveyed with a range of CPR from 4% to 79% which probably reflected individual practice patterns. Other Asian centres report 20% of ICU patients receiving aggressive support including CPR prior to death.³¹

The therapies most frequently withheld or withdrawn in the Hong Kong study were inotropes, ventilation and dialytic therapy.²² The initial step in withdrawing or withholding ventilation consisted of decreasing the oxygen concentration to air and removal of positive end-expiratory pressure (PEEP) or not increasing the level of oxygen therapy or PEEP. Very few patients or their relatives requested extubation of the trachea. Physical removal of the ventilator from the patient as the primary means of limiting therapy only occurred in brain dead patients. Withholding institution of a dialytic therapy was more common than withdrawing it. This reflected the view that instituting such therapy was unlikely to alter the outcome for the patient. Though there are limited resources devoted to intensive care in Hong Kong, no patient in the Hong Kong study had therapy limited on the basis of lack of resources.²⁰ Similar results have been found in Western countries where inotropes, ventilation and dialytic therapy are the most frequent treatments withdrawn or withheld.^{23,33}

Decisions regarding limitation of life support were on the whole made through consensus by a small group of staff. While discussions on the appropriateness of limitation of therapy involved relevant medical and nursing staff, the discussion with the family involved the ICU consultant, an ICU nurse and the patient and or the family. Clergy and social workers, while readily available, were infrequently utilised by relatives. In Hong Kong, patients and relatives concur with medical decisions to limit therapy in 95% of cases.²² A recent study in our ICU examining family response and attitudes concluded that while 90% of family members understand the process of limitation of therapy, it was still associated with significant anxiety.³⁴ Relatives indicated that limitation of therapy decisions should be made by the doctor and patient and/or family group (41%), family and/or patient alone (32%), or doctor alone (22%). This is supported by further data from Hong Kong that suggests that elderly people, despite a lack of knowledge regarding life-sustaining therapy, wished to be involved in decision making regarding life-sustaining therapy.³⁵ In Singapore, greater than 75% of elderly Chinese subjects attending a day care centre preferred to be told of the diagnosis and prognosis of a terminal illness and that the most preferred person to reveal the diagnosis was the attending doctor.³⁶ Furthermore, Joynt et al³⁷ identified factors that influenced family members' satisfaction with the medical care that their dying relative received in a Hong Kong ICU. In a telephone interview four weeks following the death of a patient, three themes emerged that were independent predictors of overall satisfaction with ICU care: staff attitude of caring towards patient and family, need for information from the health care staff, and competence in providing adequate treatment. The study suggested that the main contributors to family satisfaction after the death of a relative were communication-related along with a perception of staff competence irrespective of whether or not limitation of therapy occurred.

Until recently there has been very little guidance from the Government, the Medical Council or the Hospital Authority in Hong Kong regarding end-of-life issues. While euthanasia is prohibited by law, there is no legislation regarding determination of brain death nor the practice of limitation of life-support therapy in critically ill patients. Limitation of life support in critically ill dying patients has not been formally challenged in a Hong Kong court of law. Advance directives, either living wills or durable power of attorney, are uncommon and have no legislative support. Unlike North America, hospital ethics committees are not a feature in Hong Kong and formal DNR orders are not generally written. The Medical Council of Hong Kong has in response to media interest in euthanasia and limitation of therapy in critically ill dying patients recently published guidelines.³⁸

These guidelines go some way to providing a framework whereby ethical decision making processes can be streamlined. The guidelines suggest that limitation of therapy is essentially a medical decision, which should be based on risk and benefit analysis and whether such limitation of therapy is in the best interest of the patient. It is emphasised that the rights of the dying patient or his relatives be respected and that the decision of limitation of life support should have sufficient participation of the patient, or the relatives in the case of a mentally incompetent patient. In the situation of unresolved conflict, a structure has been suggested by the Medical Council involving hospital ethics committees, Hospital Authority ethics committees, professional Colleges and finally the Courts.

Conclusion

Recent information provide interesting insights, which challenge long-held beliefs of the medical profession regarding limitation of therapy in critically ill Chinese patients. Limitation of therapy in dying Chinese patients occurs in ICUs. Both patients and relatives concur with medical decisions to limit therapy in a large majority of such patients. Families of dying patients emphasise the importance of communication when discussing limitation of therapy as well as a desire to be involved in the decision-making process regarding limitation of therapy. The practice of withholding therapy rather than withdrawal of therapy occurs more frequently than in Western cultures. More comprehensive data and public education are required regarding end-of-life issues in the Asian context.

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