Equitable resource allocation in the intensive care unit: a descriptive ethical case

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ABSTRACT

A patient with respiratory failure due to undiagnosed tuberculosis in the presence of HIV infection presents to the ICU in a foreign country. This raises many ethical questions, quite apart from the medical management issues raised by the patient's serious condition. Six of these ethical questions have been presented to leading physicians and an ethicist, from a range of national, cultural and religious backgrounds, for their comment.

Crit Care Resusc 2006; 8: 123–128

The economic burden of health care in Australia is growing rapidly due to the increasing complexity of care and an ageing population, among other factors. Although the global management of this cost to society is best addressed at the political level, it nonetheless affects the everyday work practices of clinicians. Rationing health care is one of the issues commonly dealt with by intensivists.

We present a case which demonstrates some of the ethical difficulties faced by the intensivist in his/her professional life. Six ethical questions, actual and theoretical, were formulated by an intensivist (PVvH), a religious leader (EL) and an ethicist (AR). Comment on these was invited from practising intensivists (FHH, JMK, RFR and CWC) and an ethicist (PMMcE), representing varying cultural, national and religious backgrounds.

Clinical record

Mr GT is a 32-year-old refugee from a sub-Saharan African country. At the time of presentation to the health system, he was working as a fruitpicker and living in a hostel for migrant workers and backpackers, although in his home country he was a lawyer.

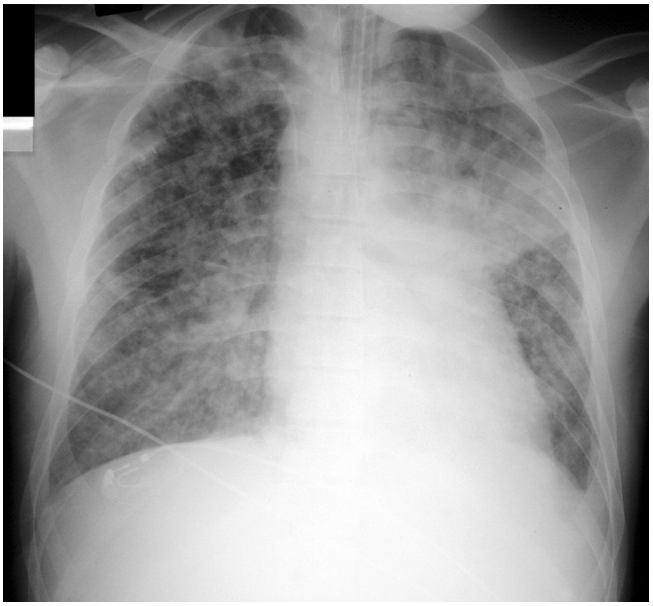
He presented to a peripheral hospital with ill-defined symptoms, including shortness of breath, fever and night sweats. A chest x-ray revealed bilateral pulmonary infiltrates, confirming the clinical findings of widespread coarse inspiratory crackles. He was admitted to the peripheral hospital and commenced on a course of broad-spectrum antibiotics for suspected pneumonia.

His condition did not improve over the course of several days and he was transferred to a tertiary hospital. Additional antibiotics were added to the treatment regimen to cover "atypical" organisms. Serological tests were ordered to exclude viral and "atypical" (eg, *Chlamydia*, *Legionella* and *Pneumocystis* spp.) causes of pneumonia and pneumonitis. His condition continued to deteriorate, with ongoing pyrexia and a dry cough. He became increasingly oxygen-dependent as the pulmonary infiltrates worsened. In view of the uncertain diagnosis and his worsening hypoxaemia, the primary medical team requested his transfer to the ICU.

At the time of referral, the ICU was full, and a recently extubated patient had to be precipitously transferred to a general ward to enable Mr GT to be admitted to the ICU. Mr GT's hypoxaemia and respiratory distress worsened, and he required prompt tracheal intubation and institution of mechanical ventilation, with an inspired oxygen concentration of 100%. Shortly thereafter, serological tests confirmed that his serum was HIV-positive. Polymerase chain reaction (PCR) testing of his sputum detected *Mycobacterium tuberculosis* DNA. Bronchial washings confirmed the presence of acid-fast bacilli. Indeed, the chest x-ray in light of this knowledge showed a classical bronchopulmonary tuberculosis pattern of infiltrates (Figure). A diagnosis of bronchopulmonary tuberculosis in an HIV-positive patient was now made.

In view of our limited experience with tuberculosis in the setting of HIV/AIDS, advice was sought from pulmonary physicians in Johannesburg who deal with this condition much more frequently. The considered view from these physicians was that bronchopulmonary tuberculosis in the setting of HIV/AIDS carries a very poor prognosis. They also advised that a patient with these conditions would not be admitted to an ICU in Johannesburg and indeed that treatment for HIV/AIDS was not available in Mr GT's home country (not South Africa). Even if he had not progressed to respiratory failure, his prognosis would not extend more than a few months in his home country. With respiratory failure, he would have died within a few days at most.

As he had been established on mechanical ventilation, it was decided to commence quadruple anti-tuberculosis therapy as the first priority and, were he to improve and be liberated from mechanical ventilation, then to commence antiretroviral therapy.



Frontal chest x-ray of Mr GT soon after intubation and ventilation.

Discussion

Many ethical questions arise from the presentation and care of this young man. We should like to explore the following most obvious issues. Each question was considered by five commentators, and we present their responses (edited to remove some repetition) with the initials of the commentator at the end of each response.

Were we correct in discharging an Australian citizen still in a precarious medical state from the ICU to enable us to admit a refugee to the ICU bed? Should this decision rest on clinical grounds alone, or are other factors such as the citizenship of the patient important when allocating scarce medical resources?

—Unfortunately, it is not unusual for a patient to be discharged from ICU earlier than planned to make way for a new admission. This decision is never taken lightly, but is made on the medical needs of the patients concerned, never on social factors such as citizenship. It is acknowledged that discharge from ICU out of hours increases the risk of death and appropriate safeguards should be put in place (eg, medical review, outreach nurse, etc). — FHH

—The decision to admit Mr GT was made before the confirmation of the diagnosis of tuberculosis or HIV/AIDS. At that time, his status was that of a young patient with respiratory failure presumed to be infective in aetiology and, hence, curable. To refuse admission to a 32-year-old previously healthy patient with pneumonia on the basis of his nationality would have been reprehensible. — JMK

—Ethical analysis using either principles or interests would not support a different course. The issues here are largely pragmatic rather than philosophical and undoubtedly included a consideration of access to other resources, such as companion monitoring facilities (emergency department, recovery area, coronary care, high dependency unit) and neighbouring hospitals. Even if there was no Australian citizen well enough to transfer, can one justify allowing a young man to die simply because he is a non-citizen or because there is no ICU bed immediately available at the time? — RFR

—The ICU team was faced with a common problem: an ICU that was full and a patient who would benefit, at least in the short term, if he was intubated and mechanically ventilated. It was possible to discharge one patient to a bed within the hospital, although this action could place the discharged patient at a degree of risk. The situation becomes one of assessing relative degrees of risk. Provided the ICU team has arranged for ongoing medical care for the patient to be discharged and undertakes to provide care again at a later time should the patient deteriorate, then the action is ethical and acceptable. Unless the laws of the country state that citizens of the country receive preferential treatment over non-citizens, then the only option is to follow Hippocratic dictates. This dilemma reinforces the need for every hospital to have a back-up plan for the occasions when the ICU is full and there is a patient requiring admission. Some hospitals have "step-down" units; others use the recovery room of the operating theatres as a temporary care area for the prematurely discharged patient. — CWC

—While it could be argued that Mr GT cannot reasonably expect to benefit from a health care system to which he has made no contribution, the general principle of justice would necessitate that all people be treated with equity and objectivity. In an environment of scarce medical resources, the notion of comparative justice acknowledges such limitations and would direct the intensivist to "weigh up" competing claims to these resources to determine the patient of greater clinical need.[1] This appears to have been done in the case of Mr GT, and should always be done without the subjective influence of incidental and non-clinical considerations such as religion, gender, nationality, and social or citizenship status. — PMMcE

Should we have withdrawn therapy (mechanical ventilation) when the diagnosis became clear (ie, that this was not an atypical pneumonia, but bronchopulmonary tuberculosis in a patient with HIV/AIDS) and the prognosis was thought to be dismal?

—Decisions to withdraw or withhold therapy must involve an assessment of the likely prognosis. This assessment would involve a search of the literature, discussions with intensivist colleagues working in hospitals with HIV units and infectious disease physicians, and, as in this case, discussions with physician colleagues from overseas. Ultimately, however, one has to combine this prognostic information with clinical assessment. If, despite the poor prognosis, the patient's clinical state is stable, or at least appears to be potentially recoverable, then a trial of therapy is warranted. This case highlights potential practical differences between withholding and withdrawing therapy, despite the terms being ethically synonymous. Because mechanical ventilation had already been instituted when the poor prognosis became known, it was thought reasonable to give a trial of therapy. However, if the prognosis had become known before endotracheal intubation, it is possible that active management (ie, mechanical ventilation and anti-tuberculosis therapy) would have been withheld and the outcome could have been very different. — FHH

—Tuberculosis, even in the presence of ventilator-dependent respiratory failure, is eminently curable.[2] Furthermore, numerous options for significantly prolonging survival in patients with HIV infection (particularly early in the course of the illness) are readily available in Australia. It was clearly incumbent on the physicians to continue therapy in ICU even once the diagnosis of HIV had been confirmed. — JMK

—Once the diagnosis was established, withdrawal of treatment could easily have been justified on the grounds of prognosis. However, the reported assessment of the prognosis at the time of diagnosis lacked some elements. One of these is the certainty that the patient would ultimately be sent to an environment where requisite treatment would not be available, and a second is knowledge of the response to initial treatment. Response to therapy is an excellent adjunct to accurate prognostication and helps offset the excessively pessimistic outlook of the average intensive care specialist. It is also worth remembering that even short-term survival may have considerable value to the individual and to his/her family. — RFR

—There are times when treatment is withdrawn, or at least not escalated, when the situation is considered futile. Such instances are usually group decisions and often involve expert groups from within and outside the ICU. There may come a time when the patient fails to respond to treatment, or has progressive sequential organ failure that is incompatible with survival. That is the time to consider withdrawing treatment — but the time was not necessarily reached when the diagnosis of bronchopulmonary tuberculosis was made. The team sought advice from South African sources and that is laudable, but the local team still have to consider whether the situation and conditions in South Africa can be directly applied to the situation in Australia. — CWC

—Seeking advice from experienced physicians in Johannesburg enabled greater understanding of the prognostic outlook and treatment options. The fact that Mr GT would not be afforded the same care he had received thus far in Australia is a point of interest only, and not a clinical determinant. To not treat this patient in Australia on the grounds that it would not be common practice in his home country is controversial. Each presentation of the same illness should be treated on its merits at the time, based on available resources and the accepted and qualified clinical practices of that society. It would not normally be routine practice to declare such a patient "medically futile" so early. — PMMcE

Could any member of the nursing staff ethically refuse to care for this patient in view of the infectious nature of the illness?

—I don't believe it would be ethical for any nurse to refuse to care for this infectious patient. However, it would be reasonable for the nurse in charge of allocations not to allocate a nurse who is pregnant or who may be immunocompromised. Such a decision is usually strongly supported by the pregnant nurse's colleagues. Trained critical care nurses understand the importance of infection control precautions and that the risk to them is minimal if they follow correct procedures. It is also widely appreciated that any patient may potentially be infectious and risk is not limited to the patient with tuberculosis and HIV in the isolation room. — FHH

—No. Clearly great caution and impeccable technique are mandatory for such procedures as venesection and airway suction, but these are skills which ICU personnel are expected to have mastered. — JMK

—The ethical responsibility of staff in treating infectious patients is not really tested by this case. The risks from both HIV and tuberculosis are very largely manageable. History is replete with instances of medical and paramedical staff heroically exposing themselves to risks in the care of others. Nevertheless, workers are generally entitled to work in a reasonably safe environment and can only surrender that right voluntarily. The "sign-on" for nurses is not the same as for the military or civilian rescue workers. Of course, if all nurses refused to engage, the organisational problems are obvious. — RFR

—No! Admission to the nursing and medical professions is based on various criteria including an undertaking to care

for the sick without regard to the type or nature of the illness. However, there should be a mechanism whereby individuals can apply to be relieved of this duty if those individuals believe that they may be at particular risk by virtue of their own state of health. A standing hospital committee should manage such applications in areas of dispute. — CWC

—The possible grounds upon which nursing staff could refuse to care for Mr GT are a genuine risk of contagion or conscientious objection. Firstly, the risk of contagion in caring for a patient with HIV and miliary tuberculosis is considered acceptable where adequate isolation, protective equipment and procedures exist to protect the nurse. In the absence of an actual or genuine risk of contagion, a decision by nursing staff not to care for Mr GT based on this would clearly be unfounded. Secondly, refusal to care for this patient based on conscientious objection is usually done so for reasons of religious or moral convictions that conflict with the situation at hand. Such reasons in this case seem doubtful. — PMMcE

Would it be a breach of patient confidentiality to trace his social and sexual contacts while he was intubated and unable to give his consent for disclosure of his personal medical details, in view of the risk his contacts would have been exposed to?

—Both tuberculosis and HIV are notifiable diseases and consequently must be reported to the state health authorities, who are responsible for contact tracing. This is a legal requirement that overrides patient privacy, although confidentiality provisions relate to how the contact information is handled. This should uncover contacts in Australia. I imagine the World Health Organization would be interested in tracing contacts in Africa. His next of kin should be sought and informed that he is critically ill in the ICU on a ventilator. — FHH

—While common sense and public health concerns would suggest that notification of the patient's social, and therefore sexual, contacts is reasonable, privacy issues and political correctness prevail in many societies, forbidding the disclosure of such information. Even so, it would seem that a spouse or other immediate family could and should be informed if the patient's condition made the giving of his own consent impossible. — JMK

—The unauthorised disclosure of even the patient's age would constitute a breach of confidentiality, but confidentiality is not an absolute right. The contacts of the patient have some right to information required for their continuing good health and this must be balanced against any unauthorised disclosure. Moreover, the (unconscious) patient can be seen to have some interest in ensuring the wellbeing of his friends and family and this interest would not be served by prolonged non-disclosure. Again, some of the issues here are pragmatic and relate to the need for timely action in tracing contacts. Public health considerations may, in general at least, supersede the narrow interests of any individual. — RFR

—The infectious nature of this patient's diseases places a distinct onus on the medical practitioner. The important issue is how to trace social/sexual contacts without compromising medical confidentiality. There are various options. If the patient has family at hand it would be reasonable to explain to them that the patient has an infectious respiratory condition and it would be wise for them to be screened for possible infection. If they agree, they can be offered, at the time of screening, an opportunity to be tested for HIV status without alluding to the patient's actual condition. The family should be encouraged to inform the patient's known friends that they have received this advice. If there were no family, it would be reasonable to approach the patient's employer with the same explanation and suggestion. Presumably tuberculosis is a notifiable disease in Australia. If so, the ICU team has a legal obligation to inform the appropriate authority of the tuberculous state of this patient. In most countries, it would then become the responsibility of the Public Health Authority to trace contacts and offer screening. — CWC

—While it is a *prima facie* obligation of health care professionals to keep information regarding any patient confidential, this is not an absolute. The risk that Mr GT's condition poses to others may be sufficient to override this principle. It is generally accepted that this can be done where the past, present or a future action of one person serves to cause harm to another. A decision to disclose such information must be balanced against the degree of harm that others could suffer should this information not be made available. — PMMcE

Were we justified in continuing aggressive and expensive medical care for a patient who would be sent back to his country of origin as soon as he was able to travel, as he would not be an acceptable migrant on the basis of his medical status? Indeed, were we not expending resources unwisely on a patient destined to die when he returned to his home country?

—The question of deportation rests with immigration authorities. Although it may be difficult to justify aggressive, expensive treatment that is not available in his home country should he be deported, right now the patient is in Australia where treatment is available. In my view it would be preferable to lobby authorities to allow him to stay in this country on humanitarian grounds, at least until his tuberculosis is treated. — FHH

—The medical staff do not act as agents of the police, the immigration authorities or the government. The fate of the patient as regards his immigration status was not and should not have been their concern. The possibility might even be entertained of a future appeal to the authorities to allow residence in Australia *because* the patient's treatment had been commenced and was unavailable in his home country. — JMK

—Individual medical practitioners have no right to unilaterally withdraw effective medical therapies from patients. The "collective" has a right to regulate use of resources, providing this is consensual or non-discriminatory. I have no knowledge of any collective deliberation that might justify the withdrawal of treatment from this patient. His ultimate disposal has to be, at the very least, uncertain. Australia has in the past refused to extradite non-citizens to countries with judicial capital punishment, for instance. I suspect the deportation of this patient, if legally possible, will at least be tested in the "court of public opinion". — RFR

—By its very nature, intensive care medicine is an aggressive and expensive variety of medical care. Governments, doctors and the public know this and, as yet, continue to request the type of care that can be administered only in an ICU. Once a patient has been accepted into the ICU, he or she is there for the care that an ICU can offer, regardless of the expense. Continued care is based on the medical assessment of futility, since practitioners are not obliged to provide futile treatment. Deciding whether a particular treatment is futile is a medical assessment, not a financial assessment. The team was aware that the patient might be deported when well enough. Does this have any relevance at the time of the patient's acute illness? The team does not know the patient's particular wishes – so one must assume that he would want his life to be saved. It is quite possible, once the patient is advised of his limited life span, that the chance to return home, place affairs in order and take leave of loved ones would be welcomed. — CWC

—By not offering aggressive and expensive treatment we would have afforded this patient the same fate he would face in his home country, but without the same justifications for denying him this opportunity. It is doubtful that there is a sound ethical basis for denying a patient necessary clinical resources in a health care system where these exist. — PMMcE

As medical practitioners, were we obliged to make the migration authorities aware of his health status (ie, ongoing HIV risk even if his tuberculosis could be effectively treated) and thereby ensure his early removal from Australia? Does our obligation lie with the patient alone or with Australian society in general?

—As I understand it, all non-citizens entering Australia on anything other than a temporary visitor's visa must meet the health requirements specified in the migration regulations. Similarly, when visitors apply for an extension of their visa they must satisfy certain health requirements. Consequently, migration authorities will become aware of his health status in due course. Whether our obligations lie with the patient alone or with Australian society in general is a difficult question. The patient's interests are clearly best served by his remaining in Australia. The risks to Australians at large could be minimised by the requirement for some sort of "health undertaking" on the part of the patient, involving regular follow-up at appropriate tuberculosis and HIV clinics, where counselling is available in addition to medical treatment. — FHH

—The medical staff were required to notify public health authorities because of the obvious concerns regarding the spread of HIV to past and future contacts. Aside from this, their obligation was to the patient only. — JMK

—I am unaware of any responsibility the medical staff might have to notify non-health-related authorities, but would anticipate a need for cooperation. Responsible medical practitioners move, with variable ease and comfort, between public and private spheres of moral functioning. Public policy should be determined in abstraction from any individual patient. Rationing falls into this category. Treatment should not be withheld from an individual patient on the basis of resource allocation. Rather, treatment may be withheld from an individual patient because that particular treatment is not available to all or any patients in that particular circumstance. — RFR

—Medical practitioners are bound by the rules of patient confidentiality. Unless the laws of Australia oblige the practitioner to notify the migration authority of patients found to be infected with HIV or tuberculosis or both, then it is the practitioner's duty to keep silent. — CWC

—The doctors' obligation lies primarily with the patient, but also with society in general. If this patient presented as a foreseeable risk to others once he was medically fit for discharge into the community, then this would represent sufficient justification to override his right to confidentiality and allow disclosure of this information. The possible consequence of expediting his deportation from Australia would be a decision of the immigration authorities and not a clinical decision. — PMMcE

Conclusions

—The decision to institute intensive care in a particular case clearly depends upon the availability of resources and

should always, ideally, also be predicated upon the prognosis for survival and quality of life following the acute event. In the USA (as opposed to South Africa), additional cultural factors such as the demands (often unrealistic) of family members, the threat of litigation and unwillingness to heed medical counselling have a profound impact on the decision-making process. While it would be possible to prolong life for a significant period in many patients dying of disseminated malignancy by instituting ventilation, vasopressors and intravenous fluids, this is seldom done because the public accepts that terminal cancer is terminal. However, such therapy is instituted every day in the USA in countless patients with diseases other than cancer, such as massive intracerebral haemorrhage, end-stage systolic cardiac failure and long-standing, advanced dementia, in which the prognosis for quality of life and even survival are almost as poor. The result is that an inevitably poor outcome is frequently preceded by a prolonged and stressful ICU course. While the availability of intensive care resources in the USA is virtually unlimited, the cost to insurers, government and, ultimately, individual consumers of these ultimately futile interventions is exorbitant. For the purpose of this discussion, it has been assumed that Australia is similarly profligate with medical resources. In this context, it is my opinion that the patient under discussion was eminently curable and that the decisions made by the medical staff were beyond reproach. — JMK

—One of the difficult issues raised by this case is the nature of the "collective". There is no overriding ethical reason why "community" should be limited to Australia or to any particular state or city. There are times (consider the recent tsunami-related initiatives) when our sense of community is considerably wider. If one takes a more global view of community, then much of the medical care available in Australia is bizarre in the extreme. Hip replacements, for instance, make no sense while children starve. These are not, however, issues that individual doctors can or should consider in the treatment of individual patients. — RFR

Follow-up

Over the course of 10 days in the ICU, Mr GT made a good recovery from respiratory failure once anti-tuberculosis therapy was commenced, under glucocorticoid cover. He was extubated and discharged to an isolation room on the respiratory ward. He spent a further 6 weeks in hospital, 4 of which were in an isolation room, and was then discharged to the community for ongoing treatment of his tuberculosis, as well as antiretroviral therapy. Clinically, he looked very well at the follow-up clinic (he had gained 10 kg). His migration status remains unsettled. If deported, he will receive no further treatment of his HIV and probably sub-optimal treatment of his tuberculosis. In Australia he has a future spanning years, while in Africa he would have a future spanning months at most.

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