When Life Support Is Pointless, Stop It

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Central Picture legend: ECMO device used for intensive care life support.

Central Message: Removing life support, such as a ventilator or ECMO, against a family’s wishes is sometimes permissible.

Perspective Statement: When no reasonable medical goal can be achieved by a treatment, the treatment can sometimes be discontinued over the family’s objections, especially, though not exclusively, if the treatment is a limited resource, such as ECMO, that is needed by others with better prospects for survival.

Key Words:
Ethics; ECMO; End-of-life care; Withdrawal of life-sustaining treatment
During the SARS-CoV-2 pandemic surges, the need to triage patients with respiratory failure was unfortunately a common problem that led to a wrenching decision: whether to remove life support from one patient to provide it to another with a better chance of survival. Such decisions were sometimes further complicated by the refusal of a surrogate decision maker to agree with removal. This issue was explored at an ethics session at the 2022 Annual Meeting of the American Association for Thoracic Surgery. The discussion focused on the following case, which illustrates the essence of the problem. The patient’s and surgeon’s names and other details have been changed for privacy.

Case

Mr. John Gawner is 54 years old and had locally advanced esophageal cancer with a history of sarcoidosis, including cardiac sarcoid with ventricular tachycardia requiring ablation. He tolerated induction therapy and had an ECOG performance status of 0, with normal pulmonary function tests. His minimally invasive esophagectomy was uneventful and his initial 24 hours were also uneventful. On postoperative day (POD) 2 he developed increasing oxygen requirements, and 12 hours later was transferred to the intensive care unit (ICU). On POD 3 he had evidence of acute respiratory distress syndrome (ARDS) and was re-intubated. On POD 5 he developed worsening hypoxemia. A trial of steroids did little to stop the progressive respiratory failure. Proning and advanced ventilator strategies were insufficient, and he had acute kidney injury from aggressive diuresis.

Dr. Judith Solomon, the patient’s surgeon, advised Mr. Gawner and his family that he should be placed on an extracorporeal membrane oxygenator device (ECMO), and discussed with them the details of what this treatment entailed, what the goals of therapy were, and the
necessity to remove life support at such time as the time the goals could no longer be achieved.

They mutually agreed to this course. The patient was placed on veno-venous ECMO. While on ECMO the patient respiratory and renal function failed to improve, and on POD 12 he suffered a hemorrhagic stroke. Dr. Solomon consulted the neurology service, and the neurology consultant indicated that significant neurological recovery was highly unlikely. Anticoagulation was stopped and the palliative care service was consulted; they recommended that because the patient had multiorgan failure (respiratory, neurological, and renal), ECMO should be discontinued and comfort measures instituted. The hospital ethics committee was consulted, and after evaluating the case by way of discussions with relevant individuals and groups, including the patient’s family, concurred that life support should be withdrawn. These recommendations were transmitted to and discussed with the family, who nevertheless pleaded for all care to be continued.

After a week of obvious failure to improve, the likelihood of survival with or without ECMO has fallen to zero, but the family still insists on continuing the treatment, despite their agreement with the pre-ECMO goal of treatment and cessation of life support. A coronavirus disease (COVID-19) surge is peaking, all ECMO circuits are in use in the hospital, and no surrounding hospitals offer ECMO. One of the COVID-19 patients in the ICU is 35 years old, has rapidly failing lung function, and will need ECMO support imminently. Is Dr. Solomon justified in removing Mr. Gawner from ECMO?

Discussion

In this case, we believe that it is ethically permissible for the surgeon to remove ECMO over the objections of the family. Mr. Gawner has had a downhill course, is on ECMO life
support, and has reached the point at which further support is medically inappropriate because he has a vanishingly small chance of survival with or without ECMO support. A pandemic has filled all the hospital’s ICU beds, and an otherwise healthy COVID-19 patient will likely need such support within a few hours. ECMO hardware is scarce and the only potentially available unit is being used to support Mr. Gawner’s respiratory failure. The American Association for Thoracic Surgery and the Society of Thoracic Surgeons codes of ethics\textsuperscript{1,2} as well as the widely used and influential American Medical Association (AMA) Code of Medical Ethics\textsuperscript{3} tell us that a physician’s paramount responsibility when caring for a patient is to the patient. The AMA code also states, however, that if an intervention is not medically appropriate, “the physician is under no ethical obligation to offer the intervention.”\textsuperscript{4} But Mr. Gawner is already on ECMO and the family objects to removing it. Does their wish override the conclusion of Dr. Solomon and her colleagues that it should be removed?

The contemporary method for achieving informed consent or refusal is shared decision making.\textsuperscript{5} In this model the physician supplies factual information about the disease and the relevant therapeutic options, while the patient or surrogate decision maker, in this case his family, evaluates these facts in light of the patient’s value system and preferences. In the absence of a specific advance directive, as in this case, the surrogate is obligated to make a decision regarding treatment based on what the patient would have wanted — the substituted judgment standard — not on their own preferences, nor on what they believe to be best for the patient — the best interest standard.\textsuperscript{6} The family has decided that the patient would have wanted to remain on ECMO.

In cases of treatment disagreement between physician and patient, the autonomous choice of the patient (represented by the surrogate) is usually decisive. The right to self-determination,
however, is a negative right: one has the right to refuse virtually any offered treatment, but cannot demand therapies that are beyond the reach of any reasonable therapeutic goal. When Mr. Gawner was placed on ECMO, the goal of resolving his ARDS and walking out of the hospital was realistic. After his stroke and progressive respiratory deterioration, no reasonable goal could be identified in support of continuing ECMO.

Ordinarily, the surgeon should not accept sole responsibility for either the determination of inappropriateness or the decision to withdraw life support, but should consult with colleagues about appropriateness, following hospital policy when available. In this case, Dr. Solomon has requested and received opinions from the palliative care, neurology, and ethics consultation services, which all agree with discontinuing ECMO.

Two ethical factors support removing Mr. Gawner from life support without the family’s agreement. The first is that Dr. Solomon has more than one patient. She is responsible for both Mr. Gawner and the other patients in the ICU, including the COVID-19 patient who will soon need ECMO. This is a major conflict of obligations. If she continues the use of ECMO for Mr. Gawner, the COVID-19 patient who is otherwise healthy will die for lack of respiratory support — thus, both will die. If she withdraws ECMO from Mr. Gawner for the benefit of the COVID-19 patient, one patient will die and one will live. If Mr. Gawner continues on ECMO, both patients will die. From a consequentialist viewpoint, the first option, saving one of the two lives, is clearly preferable.

Withdrawing medical treatments is generally held to be morally and legally equivalent to withholding them, although contrary views have been expressed. This equivalence has been established over the last several decades in a series of court decisions, starting with the Karen Ann Quinlan case in the 1970s. Applying that concept to the current case, if Mr. Gawner were
in his current condition (essentially no chance of survival) and not yet on ECMO support, he
would not be offered such support, whether or not someone else needed it. Given the
withholding-withdrawing equivalence, it follows that withdrawing support would be ethically
and legally acceptable.\textsuperscript{4} Withdrawing support over the objections of the family, however, is a
different matter and is sometimes controlled by state law. New York and Minnesota laws, for
example, prohibit physicians from withdrawing life-sustaining treatments from patients over the
objections of the family, while Texas and California laws allow withdrawal of life support after a
specified review process.\textsuperscript{9,10} Most states, however, have no statutes specifically addressing
withdrawal of life supporting treatment over family objections; such issues are left to be defined
by hospital policy. In the current case, by this reasoning, removing ECMO from Mr. Gawner and
providing it to the COVID-19 patient should not be problematic, unless prohibited by state law
or hospital policy.

A second consequentialist argument is also persuasive. A well-established standard for
determining the appropriateness of a particular treatment for a specific patient is to consider the
balance between benefits and burdens, or harms, for that individual, in light of the medical facts.
A treatment is inappropriate for a patient if the harms to the patient are substantially greater than
the benefits. Mr. Gawner is highly unlikely to survive with or without ECMO, so the possibility
of meaningful medical benefit from this therapy is virtually non-existent for him. Simply being
alive could be considered a benefit, but Mr. Gawner’s life prospects are so meager that any
possible benefit seems minimal. If he continues on ECMO, the benefit-harm balance weighs
heavily on the side of harm: additional neurological injury, vascular thrombosis, skin breakdown,
increasing renal damage, and among other complications. The benefit-harm balance is the
reverse for the COVID-19 patient: he will gain great benefit from having his life preserved and
the risks of harm are only those of ECMO in a young, healthy patient.

An argument based on relational autonomy supports continuing Mr. Gawner’s ECMO.\textsuperscript{11}
The typical benefit-harm calculation, which we have described, may be too narrow. Harms not
related directly to the patient should be considered, on this view, such as the negative emotional
impact on the family if their loved one is allowed to die prematurely, as they see it, and the
damage this might do to their view of and relationship to the medical profession. In addition,
while Dr. Solomon’s professional integrity would ordinarily obligate her to discontinue ECMO
because of its futility,\textsuperscript{12} a contrary argument can be made: her professional obligation is to
continue ECMO.\textsuperscript{13} These considerations, however, do not seem strong enough to overcome the
position favoring the removal of ECMO from Mr. Gawner, especially in the pandemic situation
of this vignette.\textsuperscript{14}

Mr. Gawner’s end-of-life story has been replayed many times in ICUs around the world
during the SARS-CoV-2 pandemic of 2019-2022. We have no data on the frequency of patients’
removal from life support against the wishes of the patient and surrogate decision makers, but
anecdotal evidence suggests that such situations are not rare, and perhaps were even more
common during the current once-in-a-century pandemic. We suspect that most families of
patients who had little or no hope of surviving the ICU agreed to termination of ECMO when
stopping it became appropriate, but, again, we have no data. Agreement to remove life support is
probably more likely when patients and families have been prepared by a pre-ECMO discussion,
and goals of treatment have been mutually agreed upon, even though such an agreement is not
binding. Despite appropriate planning and preparation in this case, the family nevertheless
continued to refuse termination of life support, based on what they believed would have been the patient’s wishes at the moment of decision.

When medical decisions are made that do not comport with the patient’s and family’s wishes, a lawsuit is always a possibility, alleging, for example, wrongful death or negligence in caring for a patient. Lawsuits against physicians can be filed for nearly any reason, but most have not succeeded.\textsuperscript{15} In this case, the law seems strongly on the side of Dr. Solomon (except in the few states in which withdrawal of life sustaining treatment against the family’s wishes is prohibited), and a lawsuit is unlikely to reach the U.S. court system for at least two reasons: the harm sustained by the patient was not great and the high costs of litigation make it unlikely that a law firm would pursue the case.

The decision to remove ECMO from Mr. Gawner and provide it to the COVID-19 patient rests heavily on consideration of the hopelessness of Mr. Gawner’s situation and the very large harms-to-benefits ratio if it were to continue. A much more difficult situation appeared during the triage conditions imposed by the COVID-19 pandemic.\textsuperscript{16} It was not uncommon for a new patient to have greater survival potential and need for cardiopulmonary support than another patient currently using an ECMO device, whose situation was not as hopeless as Mr. Gawner’s. Difficult and complex decisions of this kind are heavily dependent on local conditions of illness acuity, resource availability, and hospital policy, so are beyond the scope of our current discussion.

Considering all the facts presented in this case, we believe that Dr. Solomon was not only justified in removing ECMO from Mr. Gawner, but, under the circumstances, she had an ethical obligation to do so.
REFERENCES


