Utilizing Patient End-of-Life Decisions to Decrease Rationing of Critical Care Resources

Decisions regarding the rationing of Intensive Care Unit (ICU) beds and ventilators to patients who may have an equal chance of surviving is almost unthinkable to critical care physicians and their healthcare teams. Yet during the COVID-19 pandemic, critical care physicians may find themselves in this untenable situation. To help decrease the need for rationing scarce resources, it would be useful to identify—from the time of admission in the emergency department (ED) and prior to ICU transfer—patients for whom critical care treatment would be of little benefit or overly burdensome and patients who, nearing the end of their lives, would wish to forgo life support.

In recent decades, the number of Americans who spend part of their last month of life in the ICU has increased to nearly 30%. Do not resuscitate (DNR) orders have increased over this time period, but most DNR orders are placed close to the time of death, with a high percentage being placed within 24 hours of death.[1] Certainly, DNR patients can benefit from ICU care, but many who are admitted to the ICU will not, and these patients are often withdrawn from life support days or sometimes weeks after ICU admission.

A recent study of ICU patients with COVID-19 demonstrated an ICU mortality of 50%, and 17% of the patients who died had DNR order prior to ICU admission. Another 25% had DNR orders instituted while in the ICU.[2] In an earlier study looking at 200 consecutive adult hospital deaths, 144 had documented evidence in their medical record that they were considered dying. But only 92 patients had comfort care plans, and these plans were often received late in their terminal hospital stay. Moreover, some even went on to receive mechanical ventilation.[3]

DNR does not mean no treatment, and DNR patients can benefit from intubation and ventilatory support, but this benefit is largely dependent on patients' underlying functional status/frailty, the severity of co-morbid conditions, and prognosis. During this pandemic, early and reliable discussions regarding end-of-life decisions between the physician, healthcare team, patient, and patient's family or surrogate are particularly important. This shared decision making is crucial for communicating the patient's wishes and values and making sure the patient and family understand the ramifications of those decisions.[4]

Making these decisions early has consequences for patients and the quality of death. Patients made DNR before or within 48 hours of ICU admission, compared to those with no DNR order, had fewer procedures and a lower odds of ratings by nurses indicating poor end-of-life outcomes, including not being at peace, experiencing worse possible death, suffering, and experiencing a loss of dignity.[1]

These discussions are time consuming. During this challenging pandemic, emergency physicians are being inundated with sick patients and intensivists are walled up in ICUs taking care of multiple critically ill patients on ventilators. Therefore, creating a structure to operationalize this process can be helpful.

Suggestions for Implementation:

- Other members of the healthcare team can assume the task of having these conversations once a patient is identified by either the ED or critical care physician. These include:
    - A senior physician who is the ICU Triage officer or head of the Triage team
    - A palliative care provider to assist with a treatment plan and goals of care[4]
    - Ethics Committee is immediately available[4]

- Effective means of communication will need to be in place in order to deploy the team rapidly, especially to a busy ED.

- Discussions regarding the patient's prior wishes will have to occur quickly, particularly if the patient is critically ill at the time of presentation. With other patients, there may be more time. These patients will be admitted to a regular room, and it may take days for COVID-19 to progress to severe disease and the need for ICU transfer.[5]

Examples of Patients for Whom These Discussions Would Be Important:

- Patients whose previous wishes indicated that they would not wish to have life support.
- Patients with moderate-severe dementia.
- Those who present with SOFA score $\geq$ 9.
- Those with end-stage heart failure.
- Those with end-stage chronic obstructive lung disease (COPD) or interstitial lung disease (ILD).
- Patients with severe chronic liver disease with a Meld score >20.
- Nursing home patients with significant frailty.
- Those with prior CVA with severe neurological deficit.
- Patients who have advanced, progressive neuromuscular disease.
- Patients with metastatic cancer on palliative therapy.

Patients with a poor prognosis or with severe co-morbidities and who suffer an acute critical illness (like COVID-19 pneumonia and respiratory failure) will likely have poor outcomes, despite aggressive or heroic support. Admission to an ICU and initiation of invasive mechanical ventilation would be ill advised, even without the current pandemic.

Having an end-of-life conversation early in the course of hospitalization, hearing a patient's preferences, and explaining the chances of survival in the given situation can be hugely impactful. This shared decision making can not only help reduce the need for rationing resources but more importantly, allow the patient to decide on the type of care he/she would wish for near the end of life.

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