Brain Death: A Practical Approach

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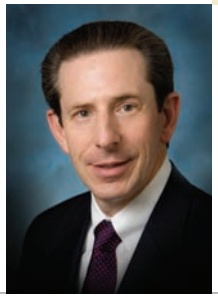

SCENE 1

Dr. Smith is the attending physician for Bob Connors (not his real name), a 45 year old man with a wife and three children, who has been on the Trauma/Neuro unit for two weeks after a motorcycle accident without a helmet. Bob suffered severe head trauma, along with other serious injuries, and Dr. Smith realized almost immediately that Bob's prognosis was poor. He has needed a ventilator since admission, and his blood pressure and temperature have been unstable, consistent with brains stem injury.

Bob's wife Mary has been at the hospital every day to speak with Dr. Smith about her husband's condition. Mr. Connors has no Living Will, but Mary has provided the hospital with a Health Care Power of Attorney executed by her husband that names Mary his attorney-in-fact. She informs Dr. Smith that she expects him and the hospital to do everything possible to keep her husband alive.

During his most recent examination of Mr. Connors, Dr. Smith finds no sign of cerebral function. Mr. Connors has no spontaneous movements, and does not respond to noxious stimuli. There are no papillary, corneal, oculocephalic, oropharyngeal, or respiratory reflexes, indicating that even brain stem functions are absent. Dr. Smith orders an EEG and cerebral blood flow studies, which confirm his clinical findings.

Dr. Smith sympathetically tells Mary Connors that Bob is brain dead, and recommends stopping all mechanical support and medical therapy. Mary responds that her faith is strong, and she is sure her husband will improve. She warns Dr. Smith that she expects all medical care to continue, and any effort on his part or the part of hospital personnel to discontinue medical care will result in litigation. Dr. Smith, acutely aware of soaring professional liability insurance premiums, is fearful of being sued, and is unsure how to proceed. He asks the hospital's attorney for advice.

SCENE 2

Dr. Jones, a neurologist, first encountered Shirley Maxwell (not her real name) in the Emergency Department. She is an 85 year old woman with a history of diabetes and congestive heart failure, and was brought to the Emergency Department by ambulance because of a massive stroke, which Dr. Jones confirmed by CT scan.

At first no one knows if Mrs. Maxwell has any next of kin, but after some investigation, Anne Daley, a social worker, determines that Mrs. Maxwell has one son, George, who lives in New Jersey, and has only been in contact with his mother infrequently. Ms. Daley speaks to George, who confesses to feeling guilty for not having a closer relationship with his mother. Ms. Daley strongly suggests that George come to the hospital immediately, as his mother's condition is very poor, and she obtains George's cellphone number.

Several times over the next two days, Ms. Daley tries to contact George, to no avail; he does not return her messages. Dr. Jones tells Ms. Daley that his most recent examination of Mrs. Maxwell reveals no cerebral or brain stem functions. Later that same day, Dr. Jones contacts Ms. Daley to report that further testing has confirmed that the patient is brain dead.

Anne Daley finally reaches George Maxwell, and tells him about his mother's condition. He tells Anne that he is re-arranging his work schedule, and he will try to be in Lancaster within 5 to 7 days to say good bye to his mother. He requests that the hospital do everything possible to keep her alive until he can get there. Ms. Daley is unsure what to do, and asks the hospital's attorney for help.

COMMENT

In legal terminology, these two cases present "fact patterns" that are not unusual in today's high technology hospitals. Physicians, hospital staff, and patients' families are obliged to make decisions about the care and treatment of patients with severe injuries and catastrophic diseases. Though these decisions are rarely easy, there are state laws and hospital policies that can help.

Pennsylvania and many other states have adopted the Uniform Determination of Death Act. This Act provides that "Only an individual who has sustained either: (1) irreversible cessation of circulatory and respiratory functions; or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards." This Act provides two ways of determining patient death: first, cessation of breathing and the absence of an audible heartbeat or pulse; or second, irreversible cessation of cerebral and brain stem functions.

The two fact patterns presented here deal with the second of these two tests, cessation of cerebral and brain stem function, or "brain death." Most hospitals, including Lancaster General Hospital, have a policy for the determination of brain death, as well as for the withdrawal of medical therapy and mechanical support devices. The Lancaster General Hospital Policy follows the Uniform Determination of Death Act, and provides that an individual with irreversible cessation of all function of the entire brain, including the brain stem, is dead. It states that all medical therapy and equipment, such as ventilators, inotropic medications, and other mechanical or pharmacologic cardiovascular support, may be withdrawn from patients in whom the total and irreversible "cessation" of brain function can be clearly demonstrated.

The policy specifically describes the criteria that must be met:

1. "Cessation" of brain function is recognized when clinical neurological examination establishes that both cerebral and brain stem functions are absent. For cerebral functions, there can be no spontaneous movement or response to noxious stimuli. For brain stem functions, papillary, corneal, oculocephalic, oropharyngeal and respiratory reflexes must be absent.
2. A confirmatory test such as an EEG, cerebral angiography, or measurement of cerebral blood flow, should provide evidence that supports the clinical assessment. If a confirmatory test is not obtained, two separate clinical exams should be performed to establish the presence of brain death.
3. Once medical evidence leads the physician to conclude that the patient is dead, the next of kin should be notified, and all medical therapy and mechanical support should be withdrawn. However, next of kin may be offered an opportunity to visit with the deceased to pay their respects prior to the withdrawal of medications or mechanical support. Under no circumstances should the deceased remain on medical therapy or mechanical support for more than 24 hours.

Having examined the Uniform Determination of Death Act and the Lancaster General Hospital Policy on Brain Death, we can now re-examine our two fact patterns to advise Dr. Smith and Anne Daley, the social worker, how to proceed in their respective cases.

In the first fact pattern, Dr. Smith has completed a clinical exam indicating cessation of cerebral and brain stem function. He then orders two confirmatory tests which support the findings of the clinical exam. Having followed the Lancaster General Hospital Policy and having met the criteria of both the Policy and the Act, the proper course of action is to document all clinical and laboratory findings in the record, and pronounce the patient dead. He should then advise the patient's wife that while we have done all we could for her husband, he has died. After she has had an opportunity to pay her respects, medications and mechanical support should be withdrawn.

In the second fact pattern, the social worker, after consultation and direction from Dr. Jones, should call George Maxwell, the son, and inform him that his mother has died, and that he must make arrangements with a funeral director for disposition of her body. Unless George can come to Lancaster within 24 hours, medication and mechanical support should be discontinued.

CONCLUSIONS

There are many reasons why it sometime difficult to decide upon an effective course of action with patients and family members in cases with fact patterns similar to the ones described. In our high technology environment, patients and families have high expectations. Some people believe that modern medicine can hold off death almost indefinitely. In the first patient, a relatively young man with a family, no one is eager to embrace the finality of death. This is particularly true when his wife can see his chest rise as his lungs fill with air, and can feel his pulse; it appears that he is indeed alive.

No physician wants to deliver bad news to a patient's family. Physicians want to please patients and their

families, and certainly want to avoid confrontations. These reasons may lead physicians to put off or avoid telling families of a patient's death. Threats of litigation, as in the first case, only serve to make situations more difficult, and in such cases it is particularly important for physicians to remain mindful of two facts. First, few patients or families who threaten litigation actually follow through on that threat. Second, no threat of litigation, no matter how forcefully delivered, will have the effect of bringing a dead patient back to life. The risk of litigation in situations such as our two fact patterns is actually extremely small.

In dealing with brain dead patients, there are at least three ethical issues that clinicians must consider. First is the duty to be honest with patients and their families. Ultimately, it is the clinician's responsibility to tell a family their loved one is dead, no matter how difficult or unpleasant it is to do so, and no matter how much the support devices give the illusion they are still alive. The second ethical obligation is the respectful treatment of dead bodies, an issue that is highlighted in the second case by George Maxwell's request that his dead mother be kept attached to support systems for an unspecified number of days. The third ethical (and likely legal) issue is one of billing for services. Once a patient is pronounced brain dead, they are dead under the laws of this state. At that time, it is not ethical or legal to continue to bill for services rendered as if the patient were still alive.

Knowledge of the Uniform Determination of Death Act and of hospital policy, such as the Brain Death Policy at Lancaster General Hospital, can guide clinicians and other staff to an appropriate course of action. In some cases, a consultation with the Bio-Medical Ethics Committee by the clinician or the family members may be helpful.

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