Suicide and the Surrogate

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Introduction

In medical toxicology, intentional drug ingestions with intent to commit suicide are a regular occurrence. Often, patients who have attempted suicide refuse lifesaving intervention. In most circumstances, emergency physicians will intervene regardless of the patient's wish to die. Their argument: patients who attempt suicide do not have the capacity to refuse lifesaving care because severe depression or psychosis has clouded their judgment. In choosing this approach, physicians make two assumptions. First, the patient's attempted suicide is directly related to psychiatric illness and not the result of a planned death in the setting of a terminal illness (euthanasia or compassionate death is an entirely different situation). Second, the patient's poorly controlled psychiatric disorder is not considered a terminal illness. The purpose of this editorial was to review medical, psychiatric, and bioethical aspects surrounding the decision to withdraw care in the suicidal patient. Two cases are reviewed where withdrawal of care was considered after suicide attempt by overdose. In the poisoned patient, medical toxicologists are poised to make significant contributions to end-of-life discussions with patients, surrogates, and care providers. Thoughtful consideration of brain death criteria and whether continued care is indeed futile will improve our framework for these mortal discussions.

Case 1: Brain Death in the Poisoned Patient

Barbara C. is a 53-year-old woman with a history of major depression and seizure disorder. The patient's family finds her

at home unresponsive with an empty bottle of phenobarbital. She is intubated emergently and requires vasopressor support. The patient requires no sedation and remains comatose. On hospital day 2, the ICU team reports to the family that the patient has no sign of brain function: her ciliary reflexes are absent, her pupils are fixed and dilated, and the bedside EEG tracings reveal isoelectric waveforms. The family requests withdrawal of life support to allow for a natural death. They state that Barbara has suffered from severe depression for many years, and that this [withdrawal of care] is what the patient would want. The regional poison control center is consulted to help determine futility of treatment.

In this first case, the medical team introduces the term “brain death” to the patient's family early in the course of treatment. Brain death is the irreversible absence of brain function—the loss of “personhood” [1]. Once diagnosed, the patient is considered dead, and life-supporting therapy is halted. The definition of brain death was first explored by a group of physicians at Harvard Medical School in 1968 in response to the growing number of patients being artificially maintained with no discernible brain function [2]. The group was acutely aware of the moral, ethical, religious, and legal implications of defining brain death. Current recommendations on brain death determination are consistent with the original diagnostic criteria, which were broken down into three categories: (1) established cause of coma, (2) cerebral unresponsiveness, and (3) absent brainstem reflexes (ciliary, vestibular, gag, etc.) [3, 4]. Importantly, reversible causes of coma such as drug intoxication, metabolic derangements, or hypothermia must be excluded before brain death examination can proceed [5].

The diagnosis of brain death in the presence of psychoactive xenobiotics is not possible, regardless of suicidal intent. Prolonged coma after overdose of sedative-hypnotic drugs has been observed since the introduction of such drugs to our pharmacologic armamentarium, yet some physicians may not appreciate the depth and longevity of sedation after such

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overdoses. For example, in 1968, Bird and Plum observed an isoelectric electroencephalogram for 24 h after barbiturate overdose in a 35-year-old man [6]. Brainstem reflexes slowly returned on days 2 through 5 after hemodialysis was initiated. An amitriptyline overdose caused a prolonged coma in which the brainstem reflexes did not return for 48–72 h [7]. Since we know many psychoactive medications cause prolonged coma in overdose, this must be ruled out before any determination of brain death can be made. If the drug is known, some physicians suggest waiting four to five half-lives to allow adequate elimination of the drug [5]. Although, one recent case series suggested that waiting five half-lives for clearance of baclofen ($t_{1/2}=3.5$ h) was insufficient, and described two cases of recovery from deep coma 5 to 7 days after overdose [8].

Medical toxicologists can provide meaningful insight for medical teams determining the eligibility and appropriateness of instituting brain death protocols in any overdose patient. In Barbara's case, the healthcare providers applied premature closure to the diagnostic process ("early closure bias") by discussing the possibility of brain death with the family in the decision to terminate care. A recent case was reported in Syracuse, New York and highlighted by *The Poison Review* in which a woman was diagnosed brain dead and awoke from coma moments before organ-harvesting surgery began [9]. It was later revealed the patient overdosed on several sedative-hypnotic medications, including baclofen. Prompt consultation with medical toxicologists and educating clinicians on the expected prolonged coma associated with some drugs can prevent complicating the already difficult end-of-life discussion and, in some cases, avoid a preventable death.

Case 2: Refusal to Initiate Intervention—the "DNR" Argument

Liz N. is a 64-year-old woman with a history of bipolar disorder maintained on lithium carbonate. She has attempted suicide several times in the past. The patient's neighbor found her unresponsive and called EMS. She is emergently intubated for airway protection. Her serum lithium concentration is 5.4 mEq/L, and she displays classic signs of lithium neurotoxicity. Nephrology has been consulted for emergent dialysis. The surgeon calls the patient's daughter to consent for dialysis catheter placement—the daughter refuses. The daughter is a healthcare provider from out-of-state, and she has seen her mother admitted to intensive care several times for suicide attempts. After the last attempted suicide, the patient expressed anger over being intubated and surviving her suicide and stated she did not want to be resuscitated again. The daughter feels that her mother has clearly demonstrated a wish to die, and she does not want to intervene. The regional poison control center is contacted to help determine futility of treatment after lithium overdose.

In this case, the health care proxy determines the best interest of the patient is consistent with the patient's wish to die and asks the physicians not to initiate care. Assuming Liz will die without medical intervention, is there a difference between not providing a lifesaving intervention and taking away a lifesaving intervention? Hospital protocol for advanced directives on the refusal of CPR (termed "do-not-resuscitate" or "DNR") was first published in 1976 [10]. Since that time, advanced directives have become commonplace in the USA and have expanded beyond just CPR to include or exclude specific lifesaving therapies such as mechanical ventilation, hemodialysis, parenteral nutrition, and vasopressor infusion. In all cases, if there is ambiguity as to the wishes of the patient, the default position is to provide care. In the second case, it is unclear if the patient's past decision to refuse future lifesaving care was made while she was still actively suicidal. Although the patient's daughter is presumably acting in the best interest of the patient, lifesaving intervention cannot be delayed to confirm the validity of this request. My first instinct in this case, as an emergency physician, is to treat the patient on presentation and determine withdrawal of care at a later time. As medical toxicologists, however, we must continue the discussions to withdraw care through inpatient consultation. So how do we answer the question of when to recommend withdrawal of care as medical toxicologists?

Withdrawal of Futile and Non-futile Care after Suicide Attempt

As medical technology advances, the medical community has gained the ability to artificially maintain physiologic homeostasis in a variety of circumstances. In defining the goals of life-sustaining therapy, we subsequently define what constitutes futile and non-futile care. The withdrawal of futile, *ineffective* medical care is a common practice in the medical community. In fact, one study suggests that 90 % of ICU deaths are preceded by withdrawal of life-sustaining treatment [11]. Intensivists often have weighty discussion with patients' families that are determined by the patient's condition, prognosis, and the efficacy of available treatment.

In many ways, withdrawal of *effective* medical care is a more difficult discussion. An excellent example of the withdrawal of non-futile care is found in "Barney Clark's Key" [12]. Barney Clark was the first patient to receive an artificial heart back in 1982. When he received this device, he was also given a key to turn it off. At the time, Mr. Clark's physician, Dr. Willem Kolff, stated, "If the man suffers and feels it isn't worth it any more, he has a key that he can apply" [12]. The provision of a key was a symbol of Mr. Clark's autonomy. While most study subjects have a right to withdraw from an experiment, this case was unique in that withdrawal from the study meant immediate and absolute death. The healthcare

providers believed Barney had the right to choose death over a prolonged life with a mechanical heart. Unfortunately, after a prolonged hospital stay, Barney Clark succumbed to sepsis and multi-organ failure 112 days after the transplant surgery.

Another example of withdrawal of non-futile care is cessation of dialysis in end-stage renal disease. Cohen and associates studied a cohort of 131 long-term dialysis patients who chose to stop dialysis and described the quality of death experienced by patients and family [13]. In this study, they found that 23 % of deaths in dialysis clinic patients were preceded by discontinuation of dialysis. The specific reasons for dialysis discontinuation were not published, but the majority of patients discontinued dialysis due to deterioration of a chronic illness (66 %) or development of an acute disease process (22 %) that presumably changed their prognosis for long- or short-term survival. Dr. Cohen writes in another article that depression is rarely the driving factor in the decision to terminate dialysis despite extensive mental health screening. In the rare instance when requests for dialysis discontinuation uncover depression, dialysis is continued against patient wishes, while aggressive psychiatric care, including inpatient treatment, is instituted [14]. In other words, patient autonomy is not upheld in the setting of acute psychiatric pathology.

Withdrawal of effective medical care is acceptable under certain circumstances. When the underlying cause of the life-threatening condition is the direct result of an attempt to end one's life, providers may struggle to accept the refusal or withdrawal of care, in part due to negative cultural views toward suicide. In the landmark US case, *Vacco v. Quill* (1997), the US Supreme Court ruled there were no constitutional grounds to the "right to die" [15]. Today, only four US states have legalized physician-assisted suicide. Thus, physicians may be reluctant to withhold treatment and allow a suicide to proceed to completion.

Are there any circumstances that would justify withdrawing medical care after attempted suicide? Weighing the goals of treatment with the burden of a prolonged life should occur in any critically ill patient regardless of the means by which they arrive at their critical illness. In other words, if the patient's condition is such that withdrawal of care would be considered in a patient who has not attempted suicide, then the patient who has attempted suicide should be granted that same right. Brown et al. echo this sentiment in a recent article reviewing the ethical considerations of withdrawal of care after a suicide attempt [16]. The authors describe an algorithmic approach to this problem. The crucial aspect of their approach is allowing for the passage of time. They suggest waiting 72 h before considering withdrawal of care after attempted suicide. This allows adequate time for the determination of prognosis, weighing the burden of life after surviving injuries, and thoughtful contemplation for patient surrogates but still providing the option to withdraw care. Inherent to this 72-h waiting period is the duty to treat up front and not

consider withholding or withdrawing care until after 3 days of lifesaving intervention.

The decision to withdraw care after suicide relies heavily on the participation of the surrogate decision maker. The first steps in this process, as described by Brown et al., include the request by the surrogate for withdrawal of care and confirmation of the surrogate as the appropriate healthcare proxy [16]. Next, the request to withdraw care must be considered "reasonable." This determination is at the crux of the ethical dilemma in both clinical vignettes and may be influenced by cultural norms. A suicide in one culture may be considered honorable and in another culture a mortal sin. In addition, surrogates may have personal motives, conscious or subconscious, influencing their decision. As portrayed in both clinical vignettes, family members likely witnessed years of suffering from mental illness and may hope to be relieved of that burden with the passing of their loved one. Alternatively, family members may have financial incentives dependent on the life or death of the patient. The underlying intent of the patient and the surrogate must be evaluated to determine what constitutes a "reasonable" request to withdraw care.

"Terminal" Psychiatric Disorders

There is currently no literature to support the argument of terminating treatment based on the presumption of "terminal" psychiatric disease. Brown et al. briefly mention the possibility but provide little guidance in how to determine whether mental illness could be considered terminal [16]. We have all seen the patient who has overdosed several times and continues to escalate their attempts. Is there a point at which we can deem further intervention futile? Due to the paucity of literature advocating such practice, psychiatry was interviewed and asked if a surrogate could argue that withdrawal of care is what the patient would want based on the act of suicide. From a psychiatrist's perspective, acting in accordance with the patient's wish to die would be akin to following the wishes of an acutely psychotic schizophrenic. The wishes of a patient should be based on their thoughts and opinions on end-of-life issues when they are being optimally treated for their psychiatric illness and not based on transient suicidal ideation. This paradigm is reflected in the case of *Thor v. Superior Court* (1993), in which a quadriplegic patient, Howard Andrews, decides to stop tube feedings because he did not want to bear the burden of life in his current state. The court's decision did not take into consideration the original etiology of the patient's quadriplegia, which was the result of a suicide attempt [16]. Instead, the court ruled in favor of the patient's wishes on the grounds that Mr. Andrews did not base his decision to withdraw care on continued suicidal ideation. This illustrates the point that suicidal ideation is generally thought to be a transient condition, and decisions to withdraw care can

only be made once this pathologic thought process has been corrected.

Conclusion

The skilled toxicologist understands the biochemical complexity of toxins, intoxicants, antidotes, and treatment strategies in the poisoned patient, but the ethical nuances of patient care are sometimes the most challenging aspect of medical toxicology. In these clinical vignettes, medical toxicology consultation played a significant role in shaping the end-of-life discussion with family and healthcare providers. Hopefully, this editorial ignites further interest and encourages discussion regarding the ethical challenges we frequently encounter as medical toxicologists.

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