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My Patient With a DNR Order Arrested in the OR! Now What?!

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Stem Case and Key Questions Content

You are the anesthesiologist on call on Monday afternoon in a busy inpatient operating room. The orthopedic surgeon tells you he is posting a semi-urgent hip hemi-arthroplasty for an elderly patient with a hip fracture. The patient is an 80 year-old female who fractured her hip 2 days ago and has been on the internal medicine service. She has a history of hypertension, coronary artery disease, and myocardial infarction (MI) approximately 30 years ago. She had 4-vessel coronary artery bypass surgery at the time of her MI. She also has a newly diagnosed abdominal aortic aneurysm measuring approximately 4 cm. The patient is hard of hearing and suffers from dementia. According to her ward nurse, she becomes combative at times. Prior to fracturing her hip, the patient was living at home with her husband of 60 years. Her son and daughter live nearby and visit daily to provide meals and to assist with bathing and other activities.

She is appropriately fasted. She has been receiving enoxaparin shots for 2 days for deep vein thrombosis (DVT) prophylaxis. Her last dose was 4 hours ago. When she arrives in the preoperative holding area, you introduce yourself. The patient is calm and can tell you her name only. She does not know why she is having surgery but she describes pain in her hip. You note that she has a single 20 gauge peripheral IV. On exam you hear a loud systolic murmur. You review the patient's chart and find that she has a Do Not Resuscitate (DNR) Order. Her son is in the waiting room. There are several other anesthesiologists available. The surgeon is in a hurry to start the case.

You are concerned about the loud systolic murmur. You call the echocardiography lab and learn that a skilled sonographer is available, so you ask for a bedside transthoracic echo. The exam shows moderate aortic stenosis and a preserved ejection fraction. You decide to proceed with the case.

1. Do you discuss the DNR order with the patient? The patient's family? The surgeon? The nurses in the operating room?

2. What is your personal practice regarding perioperative management of DNR orders?

a. Do you have a discussion with each patient?

b. What do you tell them?

c. What questions do you ask?

d. When do you have this discussion? (In the preoperative screening clinic? In the preoperative

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holding area? On the wards?)

e. If you modify the DNR order, for how long? When is it reinstated? Upon arrival in the post-anesthesia care unit (PACU)? In the intensive care unit (ICU)? When the patient is discharged from PACU?

3. What guidelines does the ASA have for management of this patient's DNR order?

4. Does your institution have a specific policy regarding perioperative management of DNR orders?

5. How does this conversation differ if the patient does not have decision-making capacity? Do you discuss your management of the DNR order with the patient representative or family member?

a. What questions, if any, do you ask?

b. What if the family member is not present? Do you try to contact them on the phone?

You decide to speak with the son about temporarily modifying the DNR order. He agrees that it is acceptable to "suspend" it for surgery. He tells you that he thinks his mother's quality of life is low and that his mother "would not want anything to keep him alive, like a breathing tube." He also states that he doesn't want "to have to pull the plug."

6. What is the son communicating about the plan for the patient's DNR order? Is this considered a:

a. Full attempt at resuscitation;

b. Limited, procedure-based attempt at resuscitation; or

c. Limited, goal-directed attempt at resuscitation

You proceed to the operating room where you plan for a general anesthetic with an endotracheal tube. You place an arterial catheter prior to induction. You induce anesthesia and intubate the trachea. The patient remains stable. You insert another large bore IV and then position the patient in a lateral decubitus position. The surgery proceeds uneventfully and the patient remains hemodynamically stable. At the end of surgery, you turn the patient onto her back. After a few minutes, she is breathing spontaneously, taking adequate tidal volumes, and opening her eyes on command. You extubate, remove the monitors, transfer her to the bed, and apply portable monitors for transport to the ICU. As you are rolling out of the operating room, she stops breathing. She is unresponsive. You cannot feel a pulse.

7. How would you manage the patient at this point?

a. Do you put her back on the monitors?

b. Do you reintubate?

c. Do you begin Advanced Cardiovascular Life Support (ACLS)?

d. Do you perform chest compressions?

e. Do you give vasoactive drugs?

f. Do you defibrillate if indicated?

8. Is the etiology of this arrest temporary? Is it reversible?

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9. Is your plan consistent with the patient or family member's goals?

10. Have you had any experience in which a patient with a "suspended" or modified DNR order has experienced a cardiopulmonary arrest in the operating room or PACU and required resuscitation?

a. What did you do?

b. What should you do?

c. Should you involve the family member or patient representative at any point?

You call for help and several of your colleagues, who do not know the patient, come to assist you. You reintubate the patient and begin manually ventilating. You ask a nurse to begin chest compressions. You replace the monitors and note that she is in ventricular fibrillation. You give epinephrine 1 mg and defibrillate. After 3 rounds of epinephrine and defibrillation, the patient has a weak pulse, but her blood pressure is very low. Your colleague suggests starting an epinephrine infusion.

11. What do you do now? Is there anything different about starting an infusion of vasoactive medication? Is that consistent with the patient's (or family's) goals?

12. Is there a role for involving the family during the resuscitation?

Before you are able to initiate an epinephrine infusion, the patient goes into ventricular fibrillation again and loses her pulse. After another round of chest compressions, defibrillation, and epinephrine, the team decides to end efforts at resuscitation and declare the patient dead.

13. Who has experienced a death in the operating room?

a. Were you involved in telling the family?

b. When a patient dies in the operating room, should the anesthesiologist be involved in telling the family?

Model Discussion Content

Patients sometimes present for surgery with Do Not Resuscitate (DNR) orders, which places the anesthesiologist in a difficult position because many aspects of anesthetic care, such as endotracheal intubation, would be prohibited by a DNR order. The anesthesiologist may be conflicted between providing the resuscitative care she knows she can provide and withholding that care in order to respect the patient's wishes. Fortunately, the American Society of Anesthesiologists (ASA) provides guidelines for the care of patients with DNR orders. However, many anesthesiologists are unfamiliar with these guidelines, and adherence is poor even among those who are familiar with them 1.

Cardiopulmonary resuscitation (CPR) has been in practice since 1960 2-4. The technique was initially promoted to revive healthy patients who suffered cardiac or respiratory arrest in the setting of near-drowning or surgical insult. However, CPR rapidly became the standard of care for cardiac arrest in the hospital 5. By 1974, physicians recognized that full efforts at resuscitation may not only be futile in some patients, but also "a violation of an individual's right to die with dignity," and the American Heart Association recommended that hospitals develop a mechanism whereby patients could refuse resuscitation 6. Physicians, ethicists, and legal experts agreed that in the absence of a patient's documented consent to refusal of treatment, or

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a physician's "Order Not To Resuscitate", the standard of care should be to proceed with resuscitation 7. Therefore, "CPR became the only medical therapy that required a physician's order for it to be withheld" 8.

Thus began the evolution of the modern Do Not Resuscitate Order. By 1988, the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) required that all hospitals have policies for Do Not Resuscitate Orders 9. In addition, all Medicare-funded hospitals are required by the Patient Self-Determination Act of 1990 to provide each patient with information about their rights regarding advance directives 10. It is now customary that admission notes and daily inpatient progress notes include documentation of "Code Status."

While a Do Not Resuscitate order facilitates treatment decision-making in a ward or intensive care setting, such directives complicate anesthetic care. In general, advance directives are established to prevent a patient from receiving life-prolonging treatment in the setting of terminal, irreversible illness. After all, the rate of survival to hospital discharge, even after witnessed arrest in a hospital, is estimated to be only 22%¹¹. However, cardiopulmonary arrest in the operating room is unique in that it is witnessed, is often foreseen, and is often reversible and iatrogenic. Consider the patient who experiences bradycardia/asystole during peritoneal traction or retro bulbar block; hypotension after induction with propofol; or respiratory arrest after administration of opiates or neuromuscular blocking drugs. Each of these causes are reversible with appropriate, timely treatment, but may require interventions forbidden by a DNR order. Anesthesiologists are experts at resuscitation. We are comfortable treating disturbances in blood pressure and heart rhythm. We are airway and oxygenation specialists. We are skilled manipulators of acid-base chemistry. Anesthesiologists may feel like our ability to properly care for a patient is inappropriately impeded by a DNR order. In addition, once their anesthesiologist explains this conflict, many patients understand the unique nature of anesthetic care and agree to resuscitation if the etiology is reversible and temporary¹. As such, many anesthesiologists temporarily suspend or modify DNR orders during the perioperative period.

Historically, recommendations for the perioperative treatment of DNR orders have varied, from those who advocated automatic "suspension" of the order¹², to those who suggested "required reconsideration," or the requirement of a preoperative discussion about the DNR order between patient and physician¹³. Still others endorsed abiding by the DNR order intraoperatively¹⁴. In a 1993 survey by Clemency and Thompson¹⁵ 87% of the anesthesiologists surveyed indicated that they had been asked to care for a patient with a DNR order. Sixty percent of respondents assumed that the DNR order was suspended in the perioperative period and 39% did not discuss with patients the implications of the DNR order for their anesthetic care. In a 2009 simulation experiment by Waisel et al¹, only 57% of anesthesiologists discussed the patient's DNR order in the preoperative interview.

The American Society of Anesthesiologists published in 1993 its first set of guidelines¹⁶ for handling DNR orders in the perioperative period, and these were most recently updated in 2013¹⁷. These guidelines emphasize the importance of communication between patient and physician and point out that blanket policies suspending DNR orders in the operating room may infringe upon a patient's right to self-determination. They advocate that the patient (or patient's representative) and anesthesiologist evaluate active DNR orders and consider them in the context of anesthetic care. If necessary, the orders can be temporarily altered to suit the patient's wishes.

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The guidelines offer three options for altering the DNR order:

- 1) Full Attempt at Resuscitation, otherwise known as “suspending” the DNR Order.
- 2) Limited Attempt at Resuscitation Defined with Regard to Specific Procedures. In this scenario, a patient may decline particular procedures such as chest compressions or defibrillation.
- 3) Limited Attempt at Resuscitation Defined with Regard to the Patient's Goals and Values. In this scenario, the patient states his individual goals, such as not wanting to remain on a ventilator for a prolonged period. The anesthesiologist and surgical team base their decision to resuscitate on whether resuscitation is consistent with the patient's goals.

Regardless of whether modifications are made, the plan for treatment should be documented in the medical record and the time at which the original directive will be reinstated should be specified. Additionally, the ASA guidelines recommend that all members of the surgical team, including surgeon, anesthesiologist, and nursing staff, be aware of the patient's wishes regarding resuscitation.

Suggestions for discussing perioperative DNR orders with patients and their representatives

1. Assess the patient or family member's understanding of the situation. Do they understand why they are having surgery? Confirm that the patient, family member, or patient representative is aware of the presence of the DNR order and familiar with its implications for the care of the patient.
2. Explain that some standard aspects of anesthesia care may be considered as prohibited by a DNR order, such as endotracheal intubation or administration of vasopressors.
3. Explain that it is common for patients to experience temporary and reversible disturbances in physiology while under anesthesia care, such as apnea or hypotension, and that treatment of such conditions in the operating room does not imply long-term need for support on a ventilator or vasopressor support.
4. Ask the patient or family member if they have specific goals or procedures they want to avoid. For example, does the patient want to avoid being on a ventilator for a prolonged time? Or requiring a prolonged ICU stay? Or does he want to avoid certain procedures, such as chest compressions or defibrillation?
5. Use language that a layperson can understand: breathing tube, breathing machine, medications to increase the blood pressure or increase the heart rate, etc.
6. Don't be afraid to tell the patient what you want to do or what you normally do. “My usual practice in this situation is...”
7. Clarify at what point the DNR order will be reinstated. PACU? ICU? Ward?
8. Ask the patient or family member if they have any questions.
9. Summarize your plan and make sure the patient or family member agrees. Is your plan to provide a full attempt at resuscitation; a limited attempt at resuscitation based on specific procedures; or a limited attempt at resuscitation based on the patient's goals?
10. Document your discussion and plans for treatment of the DNR order in the medical record.

References

American Society of Anesthesiologists: Ethical Guidelines for the Anesthesia Care of Patients

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with Do-Not-Resuscitate Orders or Other Directives that Limit Treatment. Park Ridge, IL, House of Delegates, American Society of Anesthesiologists, 2013

Waisel DB, Simon R, Truog RD, Baboolal H, Raemer DB: Anesthesiologist management of perioperative do-not-resuscitate orders: a simulation-based experiment. Simulation in healthcare : Journal of the Society for Simulation in Healthcare 2009; 4: 70-6