

Palliative Care Rounds

The Challenge of Perioperative Advance Care Planning

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Abstract

As our population ages, there will be an increasing number of patients with life-limiting disease who may be referred for major elective surgery and more pressingly may present acutely, requiring major emergency surgical intervention. Owing to the high risk of perioperative and postoperative complications associated with this group of patients, it is paramount that specific advance care planning that encompasses a patient's goals of care and resuscitative status be clarified before undergoing surgery in this acute period. In doing so, this will lead to a better quality of life for patients with a limited trajectory and allow for more informed decisions to be made about their health care. Furthermore, it will help to prevent futile and inappropriate treatments that do not respect a patient's wishes and their clinical status. In this case discussion, we explore the key themes about the challenge of perioperative advance care planning for patients with life-limiting disease and provide a framework to help guide conversation in this crucial period. *J Pain Symptom Manage* 2019;■:■-■. © 2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Anesthesia, advance care planning, palliative, surgery, mortality, quality of life, futility

Introduction

Surgery and anesthesia carry the risk of significant morbidity and mortality, particularly for the frail, elderly, and those with chronic disease. This case review explores the integration of good palliative care within the perioperative period for a patient with life-limiting illness, highlighting the value of clarifying disease trajectory, goals of care, and advance care planning in enabling complex decision making.

Case Description

Hector, an elderly World War 2 veteran, lived in an Australian rural town and was married to Vera for 75 years. Together, they had five children, 15 grandchildren, and 10 great-grandchildren. Despite kidney disease, ischemic cardiomyopathy, symptomatic heart failure, and prolonged rehabilitation after a femur fracture, when Vera developed progressive dementia, Hector became her fulltime caregiver. With the support of his General Practitioner, he completed an

Advance Health Directive (AHD) on his 90th birthday.

At 93 years old, Hector was admitted to hospital with dyspnea, chest tightness, and abdominal pain. He had a myocardial infarction (troponin peak 2.0 µg/L), new atrial fibrillation, acute kidney injury (creatinine 400 µmol/L), and subacute bowel obstruction with the possibility of underlying ischemia.

His AHD refused consent for artificial ventilation or cardiopulmonary resuscitation (CPR) "if facing a life-threatening condition." The admitting team further discussed his resuscitation status with him and the family, highlighting the likelihood of deterioration. Hector understood that his health was declining and stated that he did not want transfer to the city. After three days of ward-based care, he was discharged but returned later that night with vomiting and worsening abdominal pain, now clearly due to sigmoid obstruction and mesenteric ischemia.

The treating teams were unable to negotiate a clear treatment pathway between conservative management or emergency laparotomy. Hector's family's views

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diverged, with his daughter and son-in law “wanting everything to be done” but two other children requesting for “dad to be comfortable.” The surgeon was concerned about the high likelihood of poor outcomes from laparotomy including reduced function and death due to his preexisting frailty, chronic disease, and current acute illness. The anesthetist was unwilling to provide an anesthetic as the AHD limited the ability to respond to perioperative cardiorespiratory complications.

The palliative care team (PCT) was then asked to facilitate further care planning. The PCT first met with the surgeon and anesthetist, who explained their concerns around informed consent, risk of complications, futility, and causing suffering. They were reluctant to proceed with an operation without clear resuscitation goals and parameters for the escalation of treatment. Understanding the impasse, the PCT began the conversation with family around what Hector “wanted the most,” rather than focusing on the operation and anesthetic. He stated he wanted “a chance to go home” and be with Vera. He also “didn’t want to be brought back” because he acknowledged that his heart was failing and didn’t want to “be kept alive by machines.”

Working together, it became evident that Hector’s willingness to undertake surgery that may give him the chance of returning home could occur alongside limited treatment escalation and a focus on comfort. Relating back to his AHD, the PCT attempted to make sense of his directives and was able to document a specific perioperative advance care plan (ACP):

“Should Hector suffer a complication during or after surgery, he does not wish to receive CPR but be given good palliative care inclusive of extubation and symptom management. Should he be unable to wean from the ventilator at the end of surgery, he does not wish to be transferred to an Intensive Care Unit, but wishes to be extubated and given good palliative care. Should Hector require greater care than can be provided in locally, he wishes to remain in this town and receive good palliative care.”

With this in place, surgery proceeded. A sigmoid volvulus with surrounding mesenteric ischemia was found. Successful reperfusion occurred when the volvulus was resolved. He fared well under general anesthetic although required prolonged monitoring due to hypotension. He had further myocardial ischemia postoperatively but was discharged home on a rehabilitation package to continue his recovery 12 days later. At the time of writing, Hector has been at home for 12 months and is now a widower. He suffered a further myocardial infarction and his daughter has moved in to care for him.

Comment

Hector’s case highlights the importance of three particular issues that are pertinent to older, frail patients facing the risks of emergency surgery:

- the value of ACP in preparing patients and families for in-the-moment decision making,
- not-for-resuscitation (NFR) orders and their implications in the perioperative period, and
- the establishment of clear goals of care to help direct patients away from futile and inappropriate measures.

His case also demonstrates that the practice of good palliative care is relevant to all clinicians looking after patients with life-limiting disease, especially in the perioperative period.

An Emerging Issue and Important Discussion

The Australian population is aging with those aged 65 years and over projected to increase from 3 million in 2012 (14% of the population) to 8.7 million in 2056 (22%).¹ With 2.5 million surgeries performed in Australia in 2012–2013,² matters related to aging and frailty will frequently impact on surgical and anesthetic decision making, as will the requirement to consider a patient’s illness trajectory, prognosis, and goals of care.

The REASON study showed that the 30-day all-cause mortality in patients over the age of 70 years undergoing noncardiac surgery was 5%.³ Patients such as Hector, with an American Society of Anesthesiologist Physical Status score over three, aged over 90 years, or requiring emergency surgery, all had a significantly increased 30-day mortality. Laparotomy is one of the three most common emergency surgical procedures for patients over 80 years, carrying a 30-day mortality of 15%.⁴ Another study of elderly patients requiring emergency surgery found one-third of independent or partially dependent patients were unable to recover to their original level of function after emergency surgery with an overall mortality of 9%.⁵

There is also evidence that frailty is an independent risk factor for adverse postoperative outcomes above age alone. Frailty is defined as a state of vulnerability and poor resolution of homeostasis following a stressor, usually due to an accumulation of deficits over a lifetime.⁶ In the operative setting, patients who are frail are at greater risk of mortality and complications.^{7–9}

Hence, the plan for surgery in such patients should be an important trigger to communicate about goals of care and end-of-life wishes. As seen with Hector, a specific ACP for a patient’s individual situation may be required.

Perioperative Advance Care Planning

Advance care planning is the process by which patients discuss their future health care decisions, in case of a time when they are unable to communicate their wishes.¹⁰ ACP may allow the initiation of palliative care and can prevent unwanted invasive or life-sustaining treatments, lower in-hospital death rates, and prolong quality of life.⁹

Facilitating ACP conversations is core business in palliative care, but within the perioperative period, surgeons and anesthesiologists play a key role in initiating such discussions, as they hold expert, specialized knowledge in procedure-specific risk and prognostication.^{11,12}

Keon-Cohen et al. surveyed Australian anesthesiologists' attitudes to ACP and NFR orders and found that 90% believe ACP is important in perioperative care but felt ill-prepared and trained to initiate the discussion. The most common barriers were the lack of time, lack of consensus among treating clinicians, and poor communication within professional hierarchies.¹² This study recommended anesthesiologists be proactive in asking patients routinely in the preoperative clinic setting or in real-time emergencies about end-of-life decisions and goals of care.¹³ Palliative care services can be useful supports to anesthesiologists who plan to integrate ACP into their practice.

Hector had prepared an AHD as he considered his future and declining health. This was helpful because in doing so, it helped him and his family to prepare for in-the-moment decision making, a key objective of ACP.¹⁴

Prespecified treatment decisions with broad statements are often contained in ACP documents and identify beliefs around dignity, relief of suffering, and avoiding futility but can be too general in the perioperative period to inform individual treatment decisions such as undergoing surgery with a high risk of complications. Therefore, an individualized ACP may need to be discussed to determine appropriate consents or ceilings of care for particular clinical situations. Hector's anesthesiologist was concerned that the AHD refused consent for "artificial ventilation or cardiovascular support if facing a life-threatening condition." Certainly, with his failing heart, recent renal and myocardial insults and in the setting of an acute abdomen, Hector was facing multiple life-threatening conditions. To undergo surgery, he would need to be intubated and ventilated and receive cardiovascular support to pursue his main wish, "a chance to go home." The preparation of the new ACP allowed the focus to shift from preprepared generalized treatment decisions in the AHD, to his current context with new directives that were consistent with his wishes.

Specific limitation of treatments in a perioperative ACP plays an important role in preventing inappropriate (risks outweigh benefits) and futile (no benefit at all) care as almost a quarter of ICU beds are occupied with patients receiving potentially inappropriate care.¹⁰

Silvester and Detering provide an approach into how the perioperative ACP process may occur:

- "Always act in a patient's best interest
- Decide on life-sustaining treatment that is medically indicated (not futile or inappropriate)
- Communicate your views clearly as an expert to the patient, family, or surrogate
- Seek consensus with the patient, family, or surrogate on treatment decisions
- Document medical opinion, decisions, and directives and communicate this to staff pg456".¹⁵

High-quality ACP discussions will place the patient at the center of the decision-making process and help increase concordance between a patient's wishes and that of their treating team and family.^{15,16}

NFR Orders in the Perioperative Period

Cardiopulmonary resuscitation aims to maintain cerebral and cardiac oxygenation and perfusion after a cardiac arrest and is generally administered without consent, providing all individuals with an opportunity for survival.¹⁷ With an immediate return to circulation, the survival rate is good, but overall, the success rate remains low.^{15,17} CPR can result in incredible suffering through the extension of the dying process and was a reason for the introduction of NFR orders. One study showed that allowing such instructions led to 80% of patients dying in hospital with an NFR order in place,¹⁶ avoiding futility through the obligation to resuscitate older or terminally ill patients and allowing them a natural death.

Through an AHD, Hector had expressed his wish not to receive CPR in the event of a cardiac arrest and stated that he did not want mechanical ventilation and cardiovascular support. This was an issue for the anesthesiologist and surgeon, as they were unsure about the implications of this directive as it related to his current acute problem and were unclear on how to navigate the management of deterioration intraoperatively.

As described by Gibbs, the PCT explained that routine anesthesia involved mechanical ventilation, cardiovascular support, and the correction of reversible side effects rather than direct CPR.¹³ The impact of an incomplete understanding of routine anesthetic practice is a common problem faced by anesthesiologists when interpreting AHD and NFR orders as they will often not have been ratified with the future possibility

of surgery in mind.¹⁸ Knipe and Scott describe that NFR orders were routinely suspended in the intraoperative period by anesthesiologists for reasons such as concern that cardiac arrest can be caused iatrogenically and swift management can produce good outcomes; the belief that everything should be done to ensure patient survival in theater; and the impression of significant overlap between routine anesthetic interventions and aspects of CPR.^{17,19} In a recent survey of Australian anesthesiologists, 45.7% reported to “always” following an NFR order, with others reporting they “often,” “sometimes,” and “didn’t” adhere to such orders.¹²

It is increasingly common for patients considering surgery to have an NFR order on file.¹⁷ This represents an opportunity for anesthesiologists to clarify a patient’s wishes and provide clear and useful information to help them make an informed decision about a resuscitation plan that respects their autonomy. Having a defined NFR order for the intraoperative period in this case gave the anesthesiologist and the surgeon, together with Hector, the freedom to proceed with surgery.

Knipe et al. have described a strategy to manage such a situation, suggesting anesthesia with an NFR order in place means intubation, ventilation, and the use of vasopressors in a patient with a spontaneous circulation. If the patient deteriorates despite active treatments to the point of cardiac arrest, CPR and other treatments would be withheld and good palliative care instituted.^{17,19}

Establishing goals of care in the perioperative period to avoid futility

Establishing goals of care can express the purpose behind the medical decisions that are made in a patient’s clinical journey²⁰ and identify specific approaches that are most consistent with the patient’s phase of illness. They may change from “curative and/or restorative,” to “palliative” where the focus is on symptom management and living with an irreversible disease, to “terminal phase” focused on comfort and care with dignity where death is expected very soon.²⁰

Articulating goals of care for the perioperative period is important due to the increased mortality and morbidity associated with operations in those with a high background risk^{3,21}, for example, multiple comorbidities, organ failure, cognitive impairment, frailty, those living in residential aged care, and patients with metastatic cancer.²²

Hector was identified as being at high risk for complications, and together, patient, family, anesthesiologist, surgeon, and PCT were able to clarify goals of care and determine treatments that were most appropriate. His wish was “to go home” but he understood that his

background cardiac disease and frailty were not reversible and therefore goals of care were “palliative” in intent. These specifically translated into the preagreed directives that allowed a management plan to proceed.

Although there are no widely accepted palliative care triggers in high-risk surgical patients, there are studies²¹ being undertaken on a way forward in the perioperative period. Ernst et al. showed that by screening and identifying frail patients presenting to surgical clinic, they were able to refer “at-risk” patients for palliative care consultation to address their goals of care and NFR orders and, by doing so, demonstrated significant decreases in operative mortality.²³

Considerations for Practice

The growing expectation of basic palliative care skills as part of competent surgical and anesthetic practice may provide an opportunity for perioperative care teams to examine their learning needs in regards to ACP.^{22,24,25} Recent studies have shown that palliative care training can improve clinician knowledge and confidence in initiating these important discussions by using a mixture of role-play exercises, large group discussions, mini lectures, and case discussions.^{22,26–28}

The lower acuity of preoperative assessment clinics may provide an ideal location to practice, with more time to review the goals of care and risks and benefits of proposed treatment as part of the consent process, leading the consultation toward ACP.^{12,13,22} Screening for high-risk patients in the clinic setting using the Supportive and Palliative Care Indicators Tool provides clear indicators of advanced illness, which can help clinicians initiate conversations about advance care planning and refer those who may benefit from a palliative care assessment.^{29,30} This provides an opportunity for sharing prognostic information and for collaboration with palliative care in complex cases.^{16,23}

Establishing this culture of shared decision making for elective cases can build experience and skills within teams and be a foundation for conversations with patients and their families considering emergency or after-hours surgery.

Conclusion

The perioperative period is unique due to its acuity, the significant risks of surgery and anesthesia, potential for rapid treatment escalation, and the requirement for timely informed consent. It presents an opportunity for clinicians to engage patients in an honest discussion about their goals of care and wishes for their health and to document perioperative directives that will respond to individual choice and avoid futile and inappropriate medical care.

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