Review

Future directions of palliative surgery

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Palliation has been increasingly recognized as an integral component of surgical practice for surgeons of all specialties. As the field of surgery evolves, so too will the role of palliation within the surgical specialties. This will be related to newer technologies, surgical and non-surgical, educational mandates, and how palliation is viewed by practitioners as well as patients. In addition, as evidence-based medicine gains more prominence, there will be expanded research opportunities for surgeons. Finally, the true interdisciplinary nature of palliative care needs the involvement of surgeons. Importantly, the evolution of palliative surgery will come to represent care for all that are suffering, not only those facing immanent death. This will have special import for surgeons who are called upon to manage problems in both chronic and emergent scenarios.

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Palliative surgery: broadening the appeal

A major concern for surgeons is the concept of palliation. The surgical (and non-surgical) literature frequently uses this term inappropriately, leading to confusion related to treatment aims and realistic outcomes. Examples of misuse of the word palliation frequently includes the term 'palliative chemotherapy' for which there is no symptom to be palliated, or tumor resections when quality-of-life goals are not the aims of treatment. One definition of palliative care is:[1] 'an interdisciplinary team approach to care with a focus on comfort and quality of life rather than prolongation or 'cure' for a patient and their loved ones'. This definition does not focus only on those facing the end of life, but on eliminating suffering. In fact, palliative care in its essence is excellence in care. Certainly, most surgeons will identify with such treatment goals. As the term palliation becomes more utilized in the surgical lexicon, it will come to define care (quality of life), not just end-of-life care.

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A broader appeal of palliative surgery would be achieved if this concept was eventually divided into two categories:

1. Procedures or surgical interventions in patients near the end of life designed to relieve distress, improve function and possibly enhance survival.
2. Procedures or surgical interventions in patients who may not have a terminal prognosis at the time of treatment to relieve chronic suffering from congenital/acquired problems, sequelae of traumatic injury or after successful 'curative' surgical interventions.

A crucial point to emphasize is the 'universal' character of palliation within the entire world of surgery, *i.e.* each surgical discipline performs procedures that fall into either category. Category 2 (non-terminal patients suffering from a problem that can be addressed surgically) is more prevalent but unrecognized as being fundamentally palliative in nature. The challenge is to help the members of all surgical specialties see this new perspective about their work. Strategically, this may necessitate on-going education of surgeons and the consistent focus on quality of life prior to each procedure. As with the current 'time-out' that surgeons are now accustomed to verify patient and procedure in

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the operating room, the question – 'Will this procedure help relieve the suffering of my patient (not just cure his/her disease)?' – can also be envisioned to ensure quality-of-life focus. This implies a new priority on suffering in surgical patients (both pre-operative suffering and anticipation of surgically-induced suffering in the postoperative patient). In this way, palliation and ensuring quality of life is addressed may be considered a quality measure in the future.

While there is concern that the term 'palliation' may continue to be only considered with problems near the end of life in the future, it is likely that leaders in the field will mandate consideration for all patients suffering from any malady. For those surgeons who do focus on patients with advanced diseases and dying, while it may be a great psychological burden, in the proper perspective it will be uplifting and rewarding. While the historic 'cut to cure' may have limited utility in the setting of palliation, it may have tremendous utility if goals are redefined and, therefore, clear achievement of aims can be seen by the surgeon. The perspective is likely to change as surgeons focus more on palliative care and the rewards are better understood.

Utilizing a new, broader concept for palliation, attention must be paid to outcome measurement related to specific goals of palliative procedures. Is quality of life an adequate surrogate for measuring the relief of suffering? In other words, do the current measures of quality of life actually bear any relationship to the relief of suffering? Using Eric Cassell's concept of suffering[1] as a threat to the integrity of the person, is it possible for the surgery of the future (including pre-operative assessment, the actual procedure, and postoperative care) to embrace an approach devoted as much to the relief of suffering as cure of discrete diseases?

One of the concerns for surgeons who wish to focus on issues related to the end of life is combating the perception of being a doctor of death. This concern is complex, and may be alleviated if the primary aim of palliative care (including palliative surgery) is broadened to relieve human suffering. This will then effectively transcend care such that palliative care/surgery is recognized as an integral component of the work of all surgeons to a greater or lesser degree. In fact, without the palliative aspect, the surgeon's efforts are those of a technician only, no matter how gifted technically the surgeon may be. Palliative care is involved extensively with care at the end of life because there is often great suffering associated with terminal, advanced illness, not because providers of palliative care are 'doctors of death'.

In addition to currently practicing surgeons, palliative approaches in surgery may appeal to medical students who may not have considered surgery in the past. General surgery has struggled of late to entice medical students into the profession. This is in part due to the stereotype of the callous and uncaring surgeon. While this stereotype is unfounded for most surgeons, the rigors of operations and surgical care often lead to this perception. Thus, the humanistic focus of palliative care may broaden its attractiveness to those who would not have considered surgery as an option. This may include women for which surgery is under-represented. Surgical specialization, in which palliative care may be a part of practice, where skills such as communication as well as clinical excellence are mandated, may thus become a realistic option for students that have disregarded it in the past.

Palliative surgery research: issues and opportunities

As palliative care continues to be more recognized as an important focus of care, there will be increasing research opportunities. There is a dearth of high-quality research in this arena, and clear opportunities are available.[2] Currently, the field of palliative care suffers from lack of evidence-based care choices on which to base decisions.[3] This certainly includes surgical research, which is based on predominantly retrospective studies with outcome measures rarely focusing on quality of life issues.[4]

There are distinct ethical characteristics of palliative research that must be considered, including patient vulnerability, unstable mental status, and limitations of persistent testing during the course of a study.[5] Related to surgery, additional issues include the invasiveness of interventions, loss of decision-making control during (and sometimes for prolonged periods after) an operation, and difficulty withdrawing from a study that involves an operation (in contrast to a chemotherapy treatment).[5] While these dilemmas may seem insurmountable, as experience from surgeons and Human Subjects' Committees expands, research in this population is likely to grow in time.

There are a myriad of potential palliative care problems to study. One of the most important issues to study is outcome assessment of surgical palliation. Beyond surgical morbidity and mortality, important measures include assessment of: (i) patient-reported quality of life; (ii) symptom response; (iii) durability of symptom relief; and (iv) the overall impact of surgical complications relative to surgically obtained

symptom relief.[6] Other issues that should be examined include surgical decision-making, ethical dilemmas, communication issues, such as after major trauma or unanticipated findings, and understanding patient preferences at the end of life.[7] Certainly, there are clinical conundrums within each surgical specialty that can be studied. Examples of cancer-related issues include malignant bowel obstruction (small and large bowel), biliary obstruction, malignant ascites, locally invasive esophageal carcinoma, tumor-related pain, and bleeding. One can easily imagine multiple questions near the end of life or the setting of symptom-related suffering for transplant surgery, vascular surgery, neurosurgery, and cardiothoracic surgery. In reality, opportunities are endless, especially as technology changes and new applications are developed.

When considering a potential issue to study in the realm of palliative surgery as an intervention, questions include:

1. Is it a common palliative care problem? Examples of palliative care problems that surgeons most commonly face include malignant bowel obstruction, malignant ascites, and wound issues.

2. Are there diverse treatment approaches, including surgical diversity or surgical versus non-surgical diversity? To compare one treatment approach with another, there must be a reasonable diversity of approaches. With malignant ascites, non-surgical options include diuretics, sclerosants, and percutaneous drainage. More invasive approaches include permanent drains or shunts. Each approach has its risks and benefits, and the optimal approach in many settings is not known.

3. Is there a defined algorithm of care? As many palliative care problems occur in a heterogeneous manner, there often is no defined algorithm of care. For example, in the case of malignant bowel obstruction, the optimal approach is not always evident and, therefore, there is no defined algorithm of care. Currently, for most patients with biliary obstruction, there is a defined algorithm of care, and thus less of an opportunity for research protocols.

4. Is there a literature base for a study? There are many publications related to treatment approaches to malignant bowel obstruction and malignant ascites. There are not many comprehensive studies describing surgical outcomes for wounds due to tumor.

5. Is there a perceived need? This criterion may be the most difficult to meet, as many palliative care problems, while frequently conundrums in care, are not frequently seen. While most surgeons are not confronted with palliative care issues on a daily basis, when faced with issues such as malignant bowel obstruction or malignant ascites, they recognize that they often do not have an optimal plan of care.

Answers to these questions will ensure the most important course of research is chosen, and will also lead to the most reasonable method to choose. For example, if there is a very limited literature on a certain issue, then an observational study to understand natural course may be the most rational initial approach.

Methodology for palliative surgery studies may encompass the entire spectrum of research.[3] Qualitative descriptive research can lead to a greater understanding of palliative surgery problems. Retrospective reports can show the impact of newer techniques being utilized in the palliative care setting. Prospective observational studies can relay the natural history of clinical problems for which there is little clear evidence. An advantage of studying patients who frequently have a short survival, one may garner a more rapid understanding of results where survival is rarely the primary outcome measured. Phase I studies are unlikely to have a role in palliative research, but Phase II and III studies will gain increasing importance in time.

Palliative care education for surgeons: mandates and goals

Surgical education has been notoriously poor in relation to palliative care. In fact, of the 50 leading medical textbooks, surgery texts scored the poorest related to end-of-life topics.[8] It was shown that over 70% of these textbooks were completely lacking in discussion of palliative care issues. In addition, surgical training has been shown to be deficient in educating residents in end-of-life care.[9] Recently, the Accreditation Council on Graduate Medical Educational (ACGME) has identified six core competencies expected of a qualified surgeon: (i) patient care; (ii) medical knowledge; (iii) practice-based learning and improvement; (iv) interpersonal and communication skills; (v) professionalism; and (vi) systems-based practice. The Surgical Palliative Care Taskforce has addressed these issues.[10] In effect, this mandate should have the benefit of improving skills related to palliative care, even if surgical textbooks and didactic training lag.

In addition to the communication skills needed to interact positively with those who are suffering, whether or not facing impending end of life, surgical residents must also acquire the skills related to potential surgical and non-surgical interventions in the setting of palliative care. As often stated, it is imperative to understand not only when to operate, but also when a surgical intervention is not in the patient's best interests. Therefore, the surgeon must have a broad fund of knowledge of the myriad of treatment options so that the optimal one is chosen. As the risk/benefit ratio is crystallized in this population, it is mandatory to ensure residents are appropriately educated on these issues. In fact, it has been recently shown that teaching palliative care and end-of-life issues as a core curriculum for surgical residents has been successful when the institution is committed to this program.[11] As excellence in surgical care mandates excellence in palliative care, it is likely that such programs will expand in the future as its importance related to core competencies is addressed.

In considering how surgical education and practice should change to accommodate a major frame shift related to the broadened concept of palliative care, this may entail additional skills not currently part of surgical training. For example, in regard to the social sciences, residency and post-residency education must not only focus on communication skills, but also on issues such as cultural competency and quality-of-life measurement. While programs are currently stretched to the limit with time requirements, the focus on specialization may allow the opportunity in earlier years of residency to build such skills.

Surgeons within the field of palliative care: what the future holds

Ultimately, many surgical palliative care issues are not clear until you are in the operating room, at odd hours at night or the morning, or on weekends. Therefore, general surgeons or surgical sub-specialists will always have a role in palliative surgery. They will need to be prepared for palliative care situations and have clinical and communication skills necessary to cope with these situations.

While generalists will continue to manage most common palliative care problems, certain complex issues will be best served by surgical specialists. It is foreseeable that there will be a 'go-to' person for issues such as malignant bowel obstruction, malignant ascites, or wound care issues. Therefore, while a separate field of palliative surgery is unlikely, it may be anticipated that there will be surgeons who maintain their surgical focus on such patients. This may predominantly occur in specialized settings where there are large enough patient volumes to afford such super-specialization. Surgeons who are attracted to the care of patients with complex quality-of-life issues will then concentrate in greater degrees on palliative care in their practice. Surgeons who focus on quality-of-life procedures and communicating these issues for those suffering from a myriad of diseases or treatment-related complications will, therefore, expand the principles of palliative care for all patients.[12]

It can also be expected that there will be greater numbers of surgeons who turn to palliative care as their new specialty of practice. Palliative medicine has been recently afforded the status as a separate boarded specialty. A surgeon's background adds great depth to their ability to treat the whole patient. If a surgeon continues to operate along with becoming a palliative care specialist, at least on their patient population, they will be able to offer the complete spectrum of care for their patients. It is unclear if this scenario is practical or possible, but it would be reminiscent of the old-time generalist, and only possible for the general surgeon. In many ways, this would lead to optimal care, but it is unlikely to be the standard in most care settings. It may actually be easier (*e.g.* time constraints) for the surgeon who has narrowed his or her surgical practice to also practice palliative medicine.

Being part of a palliative care team may be the most reasonable and realistic role for surgeons in the future. As defined above,[2] the interdisciplinary team approach is key in end-of-life care. Palliative care teams are becoming more standard in hospitals, and are recommended for National Cancer Institute-designated cancer centers and some community centers as centers of excellence in palliative care.[13] This places a clear importance on palliative care for the oncology patient. There are likely to be greater demands on cancer centers to ensure patients facing the end of life are offered optimal care. In non-oncological care, surgeons may also play a relevant role in the assessment of the utility of radical interventions versus a more minimalistic approach. Therefore, in the future, surgeons are more likely to be recruited as members of palliative care teams, whether as a resource or as an active participant. It is unclear how this involvement will evolve, and without a specific mandate is likely to differ based on the particular center, resources available and interested surgical partners.

Where palliative care will ultimately reside within the field of surgery

Through the American College of Surgeons and Robert Wood Johnson Foundation, a Palliative Surgery

Working Group was initiated on 9–10 September 2001, and has since been upgraded to Taskforce status. This group has allowed like-minded surgeons from many various surgical backgrounds to meet and discuss future goals for palliative surgery. Through the Taskforce, relationships have been formed and palliative surgery as a focus has gained notoriety and been enhanced through multiple collaborative publications and presentations. It was soon recognized via this group that there is a much larger number of surgeons who share an interest in this subject. Many other surgeons have displayed interest in becoming members of this group. It is likely that this can be expanded given the right opportunity. One option could be participation in a separate society. The problem, as so often, is funding and time. With the tremendous number of local, regional, and national meetings, it is difficult to envision a separate society of palliative surgery. One mechanism could be for separate group meetings at some of the larger conferences, most notably the American College of Surgeons (ACS). The ACS has 'clubs' which meet at the annual fall meeting. A palliative surgery club would have the benefit of allowing continued growth and strengthening of the base of surgeons who focus on palliative surgery in their practice and research. Other options would be for surgeons to meet at palliative care conferences or other surgical specialty meetings. In this way, bonds can be created and collaborations initiated.

One question that must be considered in respect to the current status of palliative surgery and its future direction is related to if it is a completely separate component, important niche, or simply an element of excellent surgical care that is currently gaining greater import in societies and journals. In fact, the principles of palliative care are those that should be incorporated into the daily practice of all surgeons.[12] As discussed above, in most if not all centers, palliative surgery is unlikely to become a completely separate field of surgical care. The next most likely options then are whether there will be those within surgery that will be 'specialists' among their colleagues or whether the nature of surgery focusing on quality of life and those that are dying must be a component of all surgical care. The answer here is clearly both of these options will likely be observed based on the surgical setting and size of institution. Importantly, palliation in surgery, as a broader concept, will create a larger tent for surgeons. Surgeons are too often defined by the techniques they perform and not as much by the cognitive approach required to address a collective set of conditions (surgical diseases) amenable to invasive treatments.

Conclusions

At this time, it remains unclear where palliative surgery will end up within the lexicon of surgical practice. It may be that palliative surgery is a transient concept that has recognition currently as a separate entity within surgical care and will ultimately be enveloped within individual specialties as excellence of care. For example, palliation within the field of cancer has an obvious role. Additionally, specialties such as transplant, vascular, and trauma/critical care have an obvious need to address human suffering and death effectively. While it is unlikely for a practitioner of any of these fields to focus solely on palliation, greater educational focus during residencies and fellowships may lead to greater emphasis on palliation in training and thus in practice. Thus, the discussion of palliative care will encompass the holistic care of all surgical patients.

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