

Patient Reasoning in Palliative Surgical Oncology

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Background: The purpose of this study was to determine the patient reasoning behind treatment choice after palliative surgical consultation. **Methods:** Patients undergoing palliative surgical consultation were prospectively enrolled in this observational cohort study (11/2009–5/2011) and administered an open-ended questionnaire asking for their reasoning in choosing their treatment strategy. **Results:** Of 98 patients enrolled, 54 were treated non-operatively and 44 with surgery. Patient responses indicating their reason for treatment selection were categorized into (1) quality of life or symptom relief, (2) unclear or response not related to treatment strategy, (3) increase length of life, (4) treat the cancer, (5) concerns over surgical complications, (6) doctor's recommendation, (7) religious reasons for treatment choice, and (8) for family. The most frequently cited reason for treatment selection was symptom relief or quality of life improvement in 46 patients. Thirty-eight patients cited their doctor's recommendation while 20 patients selected their treatment to increase length of life or treat their cancer. Only 2 patients cited concerns over surgical complications as their reason for choosing their treatment strategy. **Conclusions:** The most common reasons for treatment selection in palliative surgical consultation include symptom relief or improvement in quality of life and the doctor's recommendation with few patients listing concerns over surgical morbidity. *J. Surg. Oncol.* 2013;107:372–375. © 2012 Wiley Periodicals, Inc.

KEY WORDS: palliative care; surgery; bowel obstruction

INTRODUCTION

Palliative care is an important component in the comprehensive care of cancer patients [1]. The majority of cancer centers have palliative services available as palliative care has been shown to improve quality of life and may even have a positive effect on survival [2,3]. Surgery is often incorporated into the goals of palliative care and is reported to represent 13% of operations and over 1,000 procedures per year at tertiary cancer centers [4,5]. Palliative care evaluations can also account for up to 40% of inpatient consultations at major U.S. cancer centers [6].

However, in contrast to non-surgical palliative medicine, there are limited palliative surgical outcomes data upon which to base treatment decisions [7]. In the setting of limited evidence-based treatment approaches, important information can be gained by investigating patient's decision making in palliative surgery. Patients with advanced malignancy must make difficult decisions among various treatment options and may require additional support based on factors important in their treatment selection. An in-depth qualitative study of 10 patients has outlined the issues of greatest concern to patients considering palliative surgery [8]. The authors identified major themes in patient decision-making based on study questions but did not include patients treated without surgery.

Important themes in decision-making may be obtained from including patients undergoing surgical consultation but managed without surgery. Therefore, the purpose of this study was to determine the patient reasoning behind treatment choice in all patients undergoing palliative surgical consultation. In addition, we sought to identify categories based on common themes from patient responses and identify factors associated with these categories.

PATIENTS AND METHODS

Patients were prospectively identified from inpatients hospitalized at The University of Arkansas for Medical Sciences Hospital or seen

in the Winthrop P. Rockefeller Cancer Institute clinics. Patients undergoing palliative surgical consultation, defined as an evaluation for a procedure with the primary intention of improving quality of life or relieving symptoms, were eligible [6,9]. Patients evaluated for potentially curative surgery were excluded. Once patients were evaluated by surgery, consent was obtained, and patients were administered an open-ended questionnaire asking for their reasoning in choosing their treatment strategy. The question was provided as follows: "Please describe why you chose the treatment you are about to undergo—either surgery or no surgery?" and patients were provided an entire page to provide their response and instructed to continue on the back of the page, if needed. The questionnaire was administered by a research assistant skilled in survey administration with experience in palliative care and quality of life research. The study was approved by the University of Arkansas for Medical Sciences Institutional Review Board.

At the time of enrollment, demographic and clinical variables obtained from the patient included age, gender, marital status, race, education status, work status, malignancy type, disease status, inpatient status, indication for surgical consultation, and treatment rendered (non-operative and surgical). The presence of pain at the time of surgical consultation was also recorded. Consultations were classified as emergent or non-emergent (elective/semi-emergent) based on medical record review. Emergent consults were defined as

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evaluations that were requested immediately and had the potential for immediate operative intervention. Consultations were also categorized according to whether the possible surgical intervention would represent major (intra-abdominal) surgery or minor (skin or soft-tissue) surgery, regardless of the actual treatment rendered. Patients also completed the Functional Assessment of Cancer Therapy-General (FACT-G)[10] in which higher scores indicate higher quality of life (scoring range is 0–108).

Using content analysis, two of the researchers/authors read each response and developed preliminary categories. Data were analyzed in isolation and then again in combination with the other data collected. Responses were organized into categories related to central themes utilizing an inductive approach [11,12]. A summary of categories was made, reviewed, and modified to collapse similar categories. Differences in coding were discussed with the researchers and revisions were made until 100% intercoder agreement was achieved. Credibility was enhanced by involving two senior researchers trained in qualitative research. Univariate analysis was performed to identify any variables associated with our categories of reasoning for treatment selection utilizing the chi-square test or Fisher’s exact test. All statistical analyses were performed using Stata for Windows, Release 10 (StataCorp LP; College Station, TX). A *P*-value of <0.05 was considered statistically significant.

RESULTS

Ninety-eight patients were enrolled from 11/2009 to 5/2011 and completed the questionnaire. Demographic, clinical, and treatment variables are outlined in Table I. Median age was 59 (range 23–86) with approximately equal numbers of male and female participants. Forty-five patients were married and the majority (71%) listed their race as white. One-third had less than a high school degree education and almost all (87%) were not working at the time of evaluation. Median baseline FACT-G summary quality of life score was 69.5 (range 25–105). Most patients were enrolled as inpatients, had pain present at the time of evaluation, and were non-emergent consultations. Diagnosis during consultation was bowel obstruction (35%), bowel perforation (9%), gastrointestinal hemorrhage (10%), obstructive jaundice (6%), abdominal pain of unclear etiology (21%), malnutrition/feeding tube request (5%), and wounds/tumor-related infections (14%). Treatment was non-operative/non-procedural in 43 (44%), procedural in 11 (11%), and surgical in 44 (45%).

The brevity of the answers did not permit formal qualitative data analysis and were amenable to categorization and counts. Categorization was identical when analyzed in isolation and with the other data collected, permitting analysis without influence from diagnosis, symptoms, or treatment selected. Table II displays patient’s responses stratified by categories and an example from each theme. Seventy-seven patients responded with a single reason for treatment choice while 21 provided two reasons. The most common listed responses included quality of life/symptom relief (N = 46, 47%) and doctor’s recommendation (N = 38, 39%). Twenty patients chose their strategy based on a desire to treat their cancer or live longer. Table III displays the results of our univariate analysis to identify variables associated with common indicated reasons for treatment selection. There were no variables predictive of choosing treatment for quality of life or symptom relief. Only inpatient status and having a solid organ malignancy were associated with selection based on doctor’s recommendation. Patients actively employed and working at the time of consultation were more likely to make their choice based on the intent to live longer or treat the cancer.

DISCUSSION

In this prospective study of questionnaire administration to patients undergoing palliative surgical consultation, approximately

equal numbers of patients were treated with non-operative care compared to surgical intervention. We have described common themes in patient reasoning for treatment selection and stratified the responses into categories to allow for analysis for associated variables.

There is a small body of literature that has provided some insight into decision-making in palliative surgery. Investigators from City of Hope Cancer Center performed an in-depth qualitative analysis of 10 patients scheduled for surgery in the setting of advanced cancer [8]. In addition to describing the patients’ quality of life, the interviewers explored the reasoning behind their decision-making. The authors reported that anticipation for the control of symptoms was the primary factor in surgical decision-making. Other influential factors included the social impact of the symptoms and the need to maintain hope. Despite clear patient education regarding the palliative aspects of the surgery, patients also hoped for an increase in survival. Another study of 50 patients undergoing palliative interventions for gastric outlet obstruction found that physician recommendation and the desire to eat/drink normally were important factors in treatment selection [13]. This study also reported that fear of surgery or

TABLE I. Demographic and Clinical Variables (N = 98)

Variable	Number	Percent
Age		
<60	52	53
≥60	46	47
Gender		
Female	47	48
Male	51	52
Marital status		
Not married	53	54
Married	45	46
Race		
White	70	71
Other	28	29
Education		
<HS degree	32	33
≥HS degree	66	67
Work status		
Not working	85	87
Working	13	13
Malignancy		
Hematologic	14	14
Solid organ	84	86
Disease status		
Advanced	20	20
Incurable	78	80
Baseline quality of life score		
<70	49	50
≥70	49	50
Pain present at time of evaluation		
No	28	29%
Yes	70	71%
Emergent consultation		
No	63	64%
Yes	35	36%
Inpatient status		
Clinic patient	28	29
Inpatient	70	71
Reason for surgical evaluation		
Other	45	46
Obstruction/bleeding/perforation	53	54
Magnitude of possible intervention		
Minor surgery	16	16%
Major surgery	82	84%
Actual treatment		
No surgery	54	55
Surgery	44	45

TABLE II. Patient Responses Indicating Their Reason for Treatment Selection With an Example Comment for Each Theme (N = 98)

Patients reasoning for treatment choice	Example comment	Number	Percent
QOL/symptom relief	“To get well and feel better”	27	28
Unclear	“No decision”	8	8
Length of life	“To stay alive”	7	7
Surgical concerns	“Decided not to have aggressive surgery”	2	2
Treat cancer	“I want them out. Don’t want anything to spread to vital organs”	6	6
Doctor’s recommendation	“This is doctor’s advice”	23	23
Religious	“To give God a hand in healing me”	2	2
Family	“Grandkids”	2	2
QOL/symptom relief and length of life ^a	“So that I can eat. To keep from dying”	5	5
QOL/symptom relief and doctor’s recommendation ^a	“To ease the pain. Doctor’s recommendation”	14	14
Treat cancer and doctor’s recommendation ^a	“I was told that chemotherapy is the most effective way to fight the type of cancer I have”	1	1
Length of life and family ^a	“In order to stay around and watch my grandkids grow up, to be with my wife a little longer and so on”	1	1

^aIndicating 2 responses per subject.

anesthesia was not a major concern in palliative intervention. These findings are very similar to our results as the most common reason for treatment selection in our study was hope for quality of life improvement or symptom relief. In addition, twenty patients chose their palliative strategy based on a desire to treat their cancer or live longer.

The physician’s recommendation was a strong influence in treatment choice but this is likely a result of the majority of our patients undergoing evaluation in the inpatient setting as compared to an elective outpatient surgical consultation. Another study involving caregivers during palliative surgery sought to describe the concerns family members have during the stressful period surrounding surgical palliation [14]. Specific areas of psychological, social, and spiritual distress were identified that could be areas for interventions to support family members in coping with the stress of palliative interventions. Although the goal of our study was more focused on principle reasons in decision-making, a potential limitation is that we did not include family or caregiver input into our questionnaire administration. Although the decision for surgical intervention ultimately

resides with the patient, greater exploration into family and caregiver influence into treatment choice could help provide better support and informed consent in these difficult clinical scenarios.

There are several limitations to our study. First, our goal in administering a quick and short questionnaire was to enroll a large number of patients with a relatively low time burden as many were inpatients receiving considerable care and diagnostic workup. However, limiting the burden of questionnaire completion may have limited the quantity of data obtained. Patient responses to our open-ended questionnaire items were too brief to accommodate advanced qualitative analysis. No patient provided more than two responses, and most responses were brief phrases. Second, the study is limited in that 8 patients provided responses that were unclear and indicated they had not made their decision yet. This reflects the difficulty in administering the questionnaire after evaluation and final recommendations from the surgical team and once the patient had made their final decision. Third, we have identified few factors associated with treatment selection. However, we have described a relatively large cohort of patients undergoing palliative surgical evaluation and

TABLE III. Univariate Analysis to Identify Variables Associated With Treatment Choice for Quality of Life/Symptom Relief, Doctor’s Recommendation, and Length of Life/Treat Cancer

Variable	QOL/symptom relief		Doctor’s recommendation		Length of life or treat cancer	
	OR [95% CI]	P-value	OR [95% CI]	P-value	OR [95% CI]	P-value
Age (≥60)	1.76 [0.73–4.24]	0.17	1.72 [0.7–4.26]	0.19	0.54 [0.16–1.65]	0.23
Gender (male)	1.19 [0.5–2.85]	0.67	0.74 [0.3–1.8]	0.46	0.9 [0.3–2.72]	0.84
Marital status (married)	0.83 [0.35–1.99]	0.65	1.31 [0.53–3.2]	0.52	0.95 [0.31–2.86]	0.93
Race (other)	1.45 [0.55–3.85]	0.4	1.56 [0.58–4.15]	0.33	0.8 [0.2–2.67]	0.69
Education (≥HS degree)	0.47 [0.18–1.22]	0.09	1.32 [0.51–3.55]	0.54	1.17 [0.37–4.14]	0.78
Work status (working)	0.67 [0.16–2.56]	0.51	0.43 [0.07–1.84]	0.21	4.26 [1.14–14.8]	0.02
Malignancy (solid organ)	1.72 [0.47–7.1]	0.36	0.30 [0.09–0.99]	0.04	1.64 [0.32–16.3]	0.54
Disease status (incurable)	1.43 [0.47–4.48]	0.49	0.56 [0.18–1.71]	0.25	1 [0.28–4.83]	0.96
Baseline quality of life score (≥70)	0.52 [0.21–1.24]	0.1	1.19 [0.49–2.9]	0.68	1.29 [0.43–3.94]	0.62
Pain present at evaluation	0.69 [0.26–1.82]	0.4	1.49 [0.55–4.29]	0.39	1.25 [0.37–4.93]	0.69
Emergent consultation	0.45 [0.17–1.13]	0.06	1.08 [0.42–2.73]	0.85	0.96 [0.29–2.97]	0.94
Inpatient status (inpatient)	0.84 [0.32–2.22]	0.7	5.57 [1.68–19.2]	<0.01	0.39 [0.13–1.26]	0.07
Reason for surgical evaluation (obstruction, bleeding, and perforation)	1.2 [0.5–2.89]	0.65	0.64 [0.26–1.58]	0.29	0.63 [0.21–1.9]	0.36
Treatment would require major surgery	1.59 [0.47–5.81]	0.41	0.78 [0.23–2.75]	0.66	0.34 [0.09–1.36]	0.06
Actual treatment (surgery)	1.25 [0.52–3]	0.58	0.49 [0.19–1.22]	0.09	2.15 [0.71–6.78]	0.13

Bold values indicate P-value < 0.05.

outlined many important reasons for treatment selection that can form the basis for future studies.

We performed this study to address an important aspect of palliative surgical consultation: the reason patients provide in choosing their treatment strategy. As clear outcome measures for palliative surgery have not been defined, issues of importance to patients with incurable malignancy considering surgery can provide clues as to what the optimal outcome measure may be. In addition, the responses can provide quality control on informed consent, medical decision-making, and patient education of the goals of palliative surgery. Lastly, the identification of variables associated with decision-making can allow healthcare professionals to provide the most compassionate and optimal care tailored to the clinical and demographic makeup of the patient. As an example, inpatients have demonstrated an association of treatment selection based heavily on the physician's recommendation. Inpatient consulting surgeons should be prepared to provide adequate time for the risk/benefit discussion and anticipate that the patient will likely want their physician to provide a clear treatment recommendation.

It is not uncommon for a surgeon to be involved in informing the patient of the severity of their cancer and the aspect of incurability [15]. There is likely room for improvement in surgeon-patient communication as 20% of the patients opted for their care in anticipation of prolongation of survival or to treat/remove the cancer. Hope for increased length of life from surgery does not necessarily contradict palliative care principles in light of recent data suggesting a survival benefit to palliative care [3]. In addition, surgical palliation may address situations of eminent mortality such as bowel obstruction or bowel perforation in which prompt surgical intervention can improve survival [9,16]. Palliative surgical consultation may lead to increased awareness for the patient of the severity and progression of their disease and future studies will be required to identify issues important in the risk-benefit discussion for palliative surgical intervention [17]. In addition, future studies should investigate the low frequency (2%) with which concerns over surgical morbidity and mortality influenced treatment selection. Although not all patients were offered surgery, it will be important to determine if concern over complications are truly not a major factor in treatment selection or due to a deficiency in patient education regarding the severity of palliative surgical morbidity.

In conclusion, the most common reasons for treatment selection in palliative surgical consultation include symptom relief or improvement in quality of life and the doctor's recommendation. Concerns over surgical complications were infrequently cited as a reason for treatment selection.

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