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The utilization of palliative care in gynecologic oncology patients near the end of life ☆

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ABSTRACT

Background. Palliative and supportive care services provide excellent care to patients near the end of life. It is estimated that enrollment in such services can reduce end-of-life costs; however, there is limited data available regarding the impact of palliative services in end-of-life care in gynecologic oncology patients. We examined the use of palliative services in gynecologic oncology patients during the last six months of life.

Methods. After IRB approval, a retrospective chart review of patients with a diagnosis of a gynecologic malignancy who died between June 2007 and June 2010 was performed. Abstracted data included demographics, admission and procedural history, use of anti-cancer therapy, and palliative care utilization during the last six months of life.

Results. 268 patients were identified. Most patients were white (76.9%) and had ovarian cancer (56.7%). During the last six months of life, 155 (57.8%) patients underwent anti-cancer therapy with chemotherapy, 19 (7.1%) patients were treated with radiation therapy, and 17 patients (6.3%) underwent treatment with both. 218 patients (81.3%) had at least one admission during this time (range 0–14). The most common reason for admission was gastrointestinal complaints (37.1%), followed by admissions for procedures (18.3%). The median time between the last admission and death was 32 days. 157 patients (58.6%) underwent at least one procedure during the last six months of life (range 0–11). The most common procedure performed was paracentesis (22.6%). 198 (73.9%) patients died at home or in a palliative care unit. 189 (70.5%) patients were referred to hospice or palliative care. 3.2% underwent a procedure or treatment with chemotherapy or radiation after hospice enrollment. The median time between hospice enrollment and death was 22 days. 55% of patients were enrolled in hospice less than 30 days before death. Of the 79 patients not referred to hospice, only 16.5% had documentation of refusing hospice services.

Conclusions. During the last six months of life, the majority of gynecologic oncology patients receive anti-cancer therapy and many have repeated hospital admissions. While the majority of patients are referred for palliative care, it appears that most patients spend less than 30 days on hospice. Earlier referral could decrease the number of hospital admissions and procedures while providing invaluable support during this end of life transition.

Introduction

It is estimated that 28,810 women died of a gynecologic malignancy in 2011 [1]. Hospice and palliative care services are designed to offer the patient and her family medical, emotional, and spiritual care near the end of life [2]. Experts in the field recommend a three month hospice stay in order for both the patient and her family to adequately benefit from hospice services [3]. Despite the well established benefits of these services, and the growing number of hospice agencies available, there is a noticeable trend toward shorter hospice stays [4]. In 2009, the median length of stay on hospice was 21.1 days, which decreased to 19.7 days in 2010. Correspondingly, 35.3% of hospice patients died within a week of admission in 2010, up from 34.4% in 2009 [5].

Data on end-of-life care and hospice utilization are limited in the gynecologic oncology literature. A retrospective study by Keyser et al. found that gynecologic oncology patients who were not enrolled in hospice at the end of life were more than two times more likely to have medical or surgical interventions for symptomatic relief or to prolong life performed within four weeks of their death [6]. In 2002, researchers compared the length of time between the time do not resuscitate (DNR) orders were signed and death, and found that there was a trend toward earlier discussion of end-of-life care in the patients who died between 1995 and 1997 compared to those who died between 1992 and 1994 [7]. Despite these findings, recent literature suggests that end-of-life discussions are occurring too late in the disease process [8]. Potential

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barriers to hospice referral are multifactorial, and include both patient/family and physician driven factors. Patient and/or family readiness and acceptance of end-of-life may prohibit these difficult discussions, as well as the physician's lack of comfort or knowledge with appropriate hospice referral and timing [9–15].

The objective of our study is threefold: 1) to describe the trends in end-of-life care of gynecologic oncology patients at our institution; 2) characterize the experience of our patients during their last six months of life; and 3) identify areas in need of improvement with regard to palliative care services.

Methods

A computerized database was utilized to retrospectively identify patients with a gynecologic malignancy who died at the University of Alabama at Birmingham between 2006 and 2009. Abstracted data included patient demographics, diagnosis, and stage of disease. Additionally, chemotherapy and radiation therapy utilization during the last 6 months of life were recorded. Specific information regarding diagnoses prompting admission during the last 6 months of life was recorded, as well as the specific diagnoses prompting the last admission prior to the patient's death. Additionally, length of stay and frequency of admissions were recorded. Furthermore, the specific procedures performed during the last 6 months of life were abstracted and recorded. Details regarding utilization of outpatient and inpatient palliative resources were recorded, as well as location of death. For the purposes of this study, “hospice care” and “palliative care” are often used interchangeably, and serve as a way to denote the point in time at which the goal of patient care transitioned from prolonging life to improving end-of-life symptoms. Statistical analysis included Chi square and Student's T test where appropriate.

Results

268 patients were identified and included in the analysis. The mean age of our patients was 60.6 years (range, 18–92). The majority of patients were Caucasian (76.9%), were diagnosed with ovarian cancer (56.7%), and had stage 3 disease at the time of diagnosis (57.5%). The remainder of patient demographics is depicted in Table 1.

Anti-cancer therapy

A total of 191 patients (71.3%) received either chemotherapy, radiation therapy, or both during the last six months of their life. 155 patients (57.8%) were treated with chemotherapy alone, while 19 patients (7.1%) underwent radiation therapy alone, and 17 patients (6.3%) underwent treatment with both. The median number of lines of chemotherapy for patients during this time period was 1 (range, 0–4).

Table 1
Patient demographics.

Characteristic	N = 268 (%)
Age	
Mean (years)	60.6
Range	18–92
Race	
Caucasian	206 (76.9)
African American	59 (22.0)
Other	3 (1.1)
Diagnosis	
Ovarian	152 (56.7)
Endometrial	54 (20.1)
Cervical	30 (11.2)
Extraovarian	19 (7.1)
Other	13 (4.9)
Stage	
1	40 (14.9)
2	24 (8.9)
3	154 (57.5)
4	50 (18.7)

Admissions

During the last six months of life, 218 patients (81.3%) were admitted at least once, accounting for a total of 580 admissions (Table 2). The mean number of admissions was 2.1 per patient (range, 0–14). Gastrointestinal complaints (nausea and vomiting) were the most common reason for admission during this time (37.1%), followed by 18.3% admitted to undergo a procedure, and 11.4% admitted for cardiopulmonary complications. The mean length of stay (LOS) was 5.63 days (range, 1–69). As a result of these admissions, 10.3% of patients were enrolled in hospice and discharged home, while another 9.0% died while hospitalized. An additional 4.7% were discharged home with home health services, while the remaining 76% were discharged home without any additional supportive services.

The last admission for each patient prior to their death was also examined (Table 2). The most common complaint prompting admission was gastrointestinal complaints (41.3%). The second most common reasons for the last admission were procedures (11.9%), and cardiopulmonary complaints (11.9%), followed by pain control (9.2%). The mean LOS during the patient's last admission was 7.3 days (range, 1–69). The median time between last admission and death was 32 days (range, 0–115).

Procedures

157 (58.6%) patients underwent a procedure during the last six months of life, accounting for 274 total procedures (Table 3). The mean number of procedures was 1.1 per patient (range, 0–11). The most common procedure performed was a paracentesis, accounting for 22.6% of procedures, followed by surgery (19%) and intravenous port placements or removals (12.3%). The most common surgical procedure was intestinal surgery for obstruction, resection of recurrent disease, and initial

Table 2
Admissions during the last 6 months of life.

Total number of admissions	N = 580 (%)
Reason for admission	
Gastrointestinal	215 (37.1)
Procedures	106 (18.3)
Cardiopulmonary	66 (11.4)
Hematologic	59(10.2)
Pain	44 (7.6)
Infection	25 (4.3)
Neurologic	23 (4.0)
Failure to thrive	10 (1.6)
Bleeding	6 (1.0)
Other	26 (4.5)
Outcome of admissions	
Discharge home	441 (76.0)
Discharge with hospice	60 (10.3)
Death in hospital	52 (9.0)
Discharge with home health	27 (4.7)
Reason for last admission	
Gastrointestinal	90 (41.3)
Procedures	26 (11.9)
Cardiopulmonary	26 (11.9)
Pain	20 (9.2)
Neurologic	18 (8.3)
Hematologic	15 (6.9)
Infection	8 (3.7)
Failure to thrive	7 (3.2)
Bleeding	3 (1.4)
Other	5 (2.3)

Table 3
Procedures during the last 6 months of life.

Procedures	N = 274 (%)
Paracentesis	62 (22.6)
Surgery	52 (19.0)
Port placement/removal	34 (12.3)
Thoracentesis	21 (7.7)
Biopsy	20 (7.3)
PEG[a]	17 (6.2)
VATS[b]	15 (5.5)
Stent placement/removal	12 (4.4)
PICC[c]	10 (3.6)
Tenckhoff catheter placement/removal	9 (3.3)
Other[d]	22 (8.0)

[a] Percutaneous gastrostomy tube.
[b] Video assisted thoracoscopic surgery.
[c] Peripherally inserted central catheter.
[d] Other includes upper or lower endoscopy, inferior venous cava filter placement, and percutaneous nephrostomy tube placements.

surgical intervention. The median time between last procedure and death was 46 days (range, 0–733).

Palliative services

Of the 268 patients examined in this study, 189 patients (70.5%) were ultimately referred to hospice or palliative care (Table 4). These 189 patients were similar to the total cohort with regard to race, age, diagnosis, and stage at diagnosis. Outpatient hospice was most commonly utilized, with 86.2% of referrals managed as an outpatient. 29.6% of patients were referred to hospice while they were still in the hospital; the median time between last admission and enrollment in hospice was eight days.

Of the 79 patients not referred to hospice or palliative care, 13 (16.5%) had documentation of declining hospice referral. These 13 patients were also similar to the total cohort. 12 of these patients died at home. 5 of the 13 patients who initially declined hospice agreed to referral after repeated conversations with their physician.

When comparing the 189 patients referred to hospice to the 79 patients not referred, the hospice group was slightly younger (mean age 59.8 years, compared to 62.0 years, p = .04), but was otherwise similar with regard to race, diagnosis and stage (Table 5). The hospice group was more likely to have undergone treatment with both chemotherapy and radiation in the last six months of life (28.6% vs 8.9%, p = .0008), and has a slightly higher mean number of admissions (2.2, vs 1.8, p = .04). Additionally, we found that patients who enrolled on hospice were more likely to die in their home (79.9%, vs 29.1%, p = .0001). The groups were similar with respect to reason for admission, procedures performed, and time between diagnosis and death.

The median time between last anti-cancer therapy and hospice enrollment was 38 days, while the median time between the last procedure performed and the patient's death was 20 days. Only 8.5% of patients were evaluated by their treating physician after enrollment, while only 9% were admitted to the hospital after enrolling. Only six patients (3.2%) received any treatment after hospice enrollment with palliative paracentesis, chemotherapy, or radiation therapy.

Table 4
Palliative services.

Patients referred for palliative services	N = 189 (%)
Outpatient services	163 (86.2)
Palliative care unit	18 (9.5)
Inpatient services	8 (4.2)
Number of patients with MD visit after referral	16 (8.5)
Median (visits)	1
Range	1–8
Patients not referred	79 (29.5)
Declined	13 (16.5)

Table 5
Hospice patients compared to non-hospice patients.

Characteristic	Hospice N = 189 (%)	Non-hospice N = 79 (%)	p-Value
Age (years)			
Mean	59.8	62.0	.04
Race			
Caucasian	*152 (80.4)*	54 (68.4)	.05
African American	*35 (18.5)*	24 (30.3)	.05
Other	*2 (1.1)*	1 (1.3)	.04
Diagnosis			
Ovarian	*111 (58.7)*	42 (53.2)	.48
Endometrial	*35 (18.5)*	17 (21.5)	.69
Cervical	*22 (11.6)*	9 (11.4)	.95
Extraovarian	*15 (7.9)*	5 (6.3)	.84
Other	*6 (3.2)*	6 (7.6)	.20
Stage			
1	*26 (13.8)*	14 (17.7)	.52
2	*20 (10.6)*	4 (5.1)	.23
3	*107 (56.6)*	49 (62.0)	.49
4	*36 (19.0)*	12 (15.2)	.56
Previous lines chemotherapy			
Mean	*2.9*	2.64	.62
Range	*0–9*	0–10	
Types of therapy in the last 6 months of life			
Chemotherapy	*112 (59.3)*	42 (53.2)	.43
Radiation therapy	*13 (6.9)*	6 (7.6)	.83
Both	*54 (28.6)*	7 (8.9)	.0008
None	*10 (5.3)*	24 (30.4)	.0001
Admissions in the last 6 months of life			
Mean	*2.2*	1.8	.04
Range	*0–14*	0–12	.20
Number of patients with admission	*160 (84.7)*	61 (77.2)	
Total number of admissions	*418*	139	
Reason for last admission			
Gastrointestinal	*67 (41.9)*	24 (39.3)	.85
Procedure	*17 (10.6)*	10 (16.4)	.35
Cardio/pulmonary complaints	*18 (11.3)*	8 (13.1)	.88
Pain	*15 (9.4)*	5 (8.2)	.99
Neurologic complaints	*15 (9.4)*	3 (4.9)	.42
Anemia	*12 (7.5)*	3 (4.9)	.70
Other	*16 (10.0)*	8 (13.1)	.67
Procedures in the last 6 months of life			
Number of patients with a procedure	*110 (58.2)*	47 (59.5)	.95
Total number of procedures	*202*	83	
Location of death			
Home	*151 (79.9)*	23 (29.1)	.0001
Hospital	*15 (7.9)*	33 (41.8)	.0001
Palliative care	*22 (11.6)*	0 (0)	.0035
Unknown	*1 (0.5)*	23 (29.1)	.0001
Time between diagnosis and death (days)			
Mean	*1293.9*	1438.3	.64
Time between last admission and death (days)			
Mean	*58.8*	47.1	.37
Time between last treatment and death (days)			
Mean	*290.0*	413.1	.12
Time between last procedure and death (days)			
Mean	*63.1*	77.5	.78

The median time between hospice enrollment and death was 22 days, with 55% of patients enrolled on hospice less than 30 days. Most patients died in their home (65.7%), while another 17.2% died while in the hospital, and another 8.2% died on an inpatient palliative care service.

Discussion

Existing data suggest that lengths of stay on hospice remain shorter than what is recommended by experts, despite proven benefits with hospice enrollment [3–5,8,16]. The reasons for this are likely multifactorial in nature, and can be categorized as either patient and family-centered, physician-related, or both. Patient and/or family readiness to accept end-of-life care is one of the most common barriers to hospice utilization [8,9,12,14,15]. In our study, only 16.5% of the patients who were not referred to hospice had documentation of declining these services, suggesting that in our population, the majority of patients are willing to accept end-of-life care when it is offered.

Although prior studies have suggested that the majority of patient's families believe that their hospice referral occurred at the appropriate time, with more than 30% of patients receiving less than a week of hospice care, there is clearly room for improvement [5,8]. Another potential barrier to hospice referral is physician comfort with terminal prognoses and/or diagnoses. In the previously cited survey of families of patients referred to hospice, most of the respondents who believed their hospice referral was "too late," cited physician barriers as the most common reason. One possible reason for this is that previous studies have shown that physicians tend to overestimate patient survival, by as much as 30% [17]. Many physicians overestimate prognosis by as much as five-fold, even when attempting to give an accurate assessment [18]. There have been attempts to create predictive models for estimating a patient's potential survival, and newer models that include functional status assessment and clinical assessment have sensitivity and specificity of approximately 85% [19].

Although a physician may be able to accurately predict a patient's survival, he or she may not always choose to disclose it to the patient. Roberts et al. surveyed 108 women with a gynecologic malignancy, and found that 96% of women desired and expected "straight talk" from their physicians with regard to their disease status [20]. Despite these findings, a survey of physicians reported that they only disclose their actual predicted prognosis to patients 37% of the time, and that they consciously overestimate prognosis to the patient the remainder of the time [21]. Some experts suggest that if the patient truly desires an accurate prediction of her survival time, referral to an independent consultant who is not as emotionally invested in the patient may lead to a more accurate prediction [22].

Data on length of stay and patient perception of end-of-life care are limited in the gynecologic oncology population. Previous studies by Keyser et al. found that enrollment in hospice services did not shorten patient survival when compared to those who did not enroll in hospice [6]. Furthermore, data suggest that enrollment in hospice may decrease the number of procedures and treatments used in the final weeks of life [6]. We found that 71.2% of patients underwent treatment with chemotherapy or radiation in the last six months of life and 58.6% had a procedure performed during this time. However, after enrollment in hospice, only 3.2% of patients underwent a procedure or anti-cancer therapy. Similarly, enrollment in hospice may significantly reduce the number of admissions to the hospital during the final months of life. 81.3% of patients were admitted during the last six months of life, with some patients having as many as 14 hospital admissions during this time. Only 9% of patients enrolled in hospice were admitted to the hospital after enrollment.

Many patients choose to die in the comfort of their own home. In our study, we found that 65.7% of patients died in their homes, and patients who enrolled on hospice were more likely to die in their home compared to those who were not on hospice. For those patients who choose to die at home, there are well-established benefits of hospice care in this setting, for both the patient and her family [23]. Surveys of bereaved family members of hospice recipients following their death have demonstrated that they have significantly less anxiety and higher satisfaction with their hospice services if they were well-informed of the patient's condition, and if they believed they received adequate pain medication [24]. This preparedness for death provided by hospice services has been documented to improve caregiver outcomes and improve bereavement outcomes for family members [25–28].

The question remains whether utilization of palliative care at the end of life will decrease costs of medical care. Morrison et al. retrospectively examined patients utilizing palliative services from eight institutions and matched them to "usual care" patients who were not referred to palliative care. They found that for patients who died, palliative care referral resulted in a cost savings of $4,908 per admission and $374 per day ($p<.003$ and $p<.001$, respectively). Additionally, for patients who were alive at the time of discharge, there was still a substantial cost savings of $1,696 per admission and $279 per day ($p<.004$ and $p<.001$, respectively) [29]. There are many barriers to developing high quality, cost-effective care at the end of life, including the difficult balance between wishes of patients and their caregivers and expectations of their treating physicians. We can only speculate that more timely access to palliative services at the end of life may help reduce overall costs and improve patient and family outcomes.

During the final months of life, many gynecologic oncology patients continue to receive anticancer therapy. Additionally, many patients have repeated, often lengthy, hospital admissions and undergo invasive procedures. The majority of patients are referred to hospice, although late in their disease process. Discussion about potential end-of-life preferences with patients in the pre-terminal phase of their disease process may help improve both patient and physician comfort with end-of-life care, and improve the ability of patients and their families to benefit from the palliative care services.

Conflict of interest statement

We have no conflicts of interest to disclose.

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