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Urologic Oncology: Seminars and Original Investigations 33 (2015) 267.e23–267.e29

UROLOGIC ONCOLOGY

Original article

Concurrent urologic and palliative care after cystectomy for treatment of muscle-invasive bladder cancer

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Received 12 November 2014; received in revised form 27 January 2015; accepted 20 February 2015

Abstract

Purpose: To characterize the effect of palliative care provided concurrently with usual urologic care for patients with bladder cancer undergoing cystectomy.

Materials and methods: Prospective, 6-month, serial cohort study comparing 33 participants receiving usual care with cystectomy for muscle-invasive bladder cancer, with 30 participants also receiving concurrent palliative care. Patients and family caregivers completed validated symptom assessment and satisfaction surveys preoperatively and at 2, 4, and 6 months postoperatively.

Results: The intervention group saw improvements in most symptom measures over the 6 months following cystectomy compared with the control group. Depression and anxiety decreased over the 6-month period for the intervention group patients but increased over this time among the controls ($P = 0.01$). Fatigue decreased to a minimum for the intervention group participants at 4 months, whereas it peaked at this time for control participants (0.002). Quality-of-life and posttraumatic growth scores followed a similar pattern, with scores peaking at 4 months for the intervention group whereas controls reported their lowest scores at this time ($P = 0.01$ and $P = 0.03$, respectively). Changes in pain scores did not reach statistical significance. Neither family caregiver burden nor patient satisfaction showed statistically significant changes over time.

Conclusions: Patients who received concurrent palliative care in addition to usual urologic care following radical cystectomy for muscle-invasive bladder cancer had better outcomes, including improved fatigue, depression, quality of life, and posttraumatic growth. Although further research on this topic is needed, our results suggest that providing palliative care services in addition to usual urologic care for patients with bladder cancer may significantly reduce postoperative symptoms.

Keywords: Cystectomy; Bladder cancer; Symptoms; Distress; Palliative care

1. Introduction

Major professional organizations call for comprehensive cancer care to include palliative care [1,2]. A growing body of research demonstrates benefits in clinical outcomes, patient satisfaction, health care utilization, and cost for palliative care for patients with serious illness, including urologic cancers, regardless of prognosis [3–8]. In response to this persuasive research, the American Society for Clinical Oncology has called for palliative care consultation for all patients with cancer with metastatic disease or high symptom burden or both [2], and palliative care is recognized as integral to routine oncology care by the National Comprehensive Cancer Network and the Commission on Cancer.

Integration of palliative care into the routine treatment of bladder cancer has been limited. The American Urological Association recommends palliative care for some patients with advanced prostate cancer but offers no guidance regarding palliative care for patients with bladder cancer [9].

This research was supported in part by a Pilot and Exploratory Project grant from the American Cancer Society, USA (PEP-09-153-01-CPPB) to Dr. Rabow. This funder had no role in study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the article for publication.

IRB approval was obtained.

This research has not been published elsewhere.

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http://dx.doi.org/10.1016/j.urolonc.2015.02.012
1078-1439/

The European Association of Urology's monograph on palliative care includes a section on pain management for patients with bladder cancer [10].

Bladder cancer is the fifth most prevalent cancer in the United States, but its symptoms have not been well studied [11–16]. A recent study demonstrated that cystectomy to potentially cure bladder cancer did not improve presurgery symptom burden 6 months after surgery for a number of important symptoms and may have worsened others [17]. Bladder cancer and its treatment create significant distress, but symptoms may not be adequately assessed, and few interventions have been prospectively evaluated using validated instruments [17–19]. In particular, palliative care offered concurrently with surgical oncologic care for patients with bladder cancer being treated with curative intent has not been studied.

To assess the effect of concurrent palliative care in bladder cancer, we examined symptoms, quality of life, and satisfaction among patients undergoing cystectomy for muscle-invasive bladder cancer and receiving usual urologic care for 6 months postoperatively. We compared outcomes from this group with those from patients receiving concurrent palliative care.

2. Materials and methods

The study methodology for the usual urologic care group has been described previously [17]. For the study, 2 serial cohorts of patients at an academic comprehensive cancer center with histologically confirmed urothelial carcinoma who were scheduled to undergo radical cystectomy were recruited. The first cohort (control) included patients undergoing cystectomy during a 13-month period from 2009 to 2010. The second cohort (intervention) included patients undergoing cystectomy during a 15-month period from 2010 to 2012. Patients unable to complete study surveys in English and those with psychosis or cognitive impairment were excluded. All participants were asked to complete surveys before surgery and at 2, 4, and 6 months postoperatively. If participants identified a primary family caregiver at their initial visit, the caregiver was asked to complete surveys at the same time intervals.

In addition to usual cystectomy care, the intervention group patients received palliative care consultation. This included a preoperative meeting or telephone consultation with a board-certified palliative care physician or nurse practitioner to orient the patient to the upcoming surgery and provide anticipatory guidance about symptom management and expectations for the postoperative course. Intervention patients also received an "Orientation to Bladder Cancer and Cystectomy" handbook and a "Prepare for Surgery" meditation audio CD. Intervention patients were visited in the hospital by the palliative care team after cystectomy to assist with symptom management and explain planned palliative care services. Intervention patients received telephone or in-person consultations with the palliative care clinician monthly for 6 months postoperatively. The team included a palliative care physician and nurse practitioner with 0.05 clinical FTE each. Patient problems identified during these interactions with the palliative care team were addressed during the visit or follow-up calls, or it led to engaging the patient's surgeon. Surgeons were alerted to all palliative care activities. Recommendations typically included advice about management of symptoms, including pain, constipation, depression, and fatigue. Family caregivers were included in consultations at the patients' discretion.

The primary study outcome measures were changes from baseline in pain, fatigue, depression, anxiety, health-related quality of life, and spiritual well-being at 2, 4, and 6 months after enrollment. Baseline surveys were obtained in the week before surgery and, for intervention patients, before the first interaction with palliative care. Participants completed the following surveys at each of the time points: Brief Pain Inventory [20], Cancer Fatigue Scale, [21], the Hospital Anxiety and Depression Scale (HADS) [22], the Functional Assessment of Chronic Illness Therapy—Spirituality-12 [23], and the Functional Assessment of Cancer Therapy—General [24].

Secondary patient outcomes included posttraumatic growth, health care utilization, patient satisfaction, and family caregiver burden at 2, 4, and 6 months after enrollment. These outcomes were assessed with the Posttraumatic Growth Inventory [25], the Patient Satisfaction Questionnaire III [26], the Zarit Burden Inventory [27], and the FAMCARE survey [28].

Demographic information, pathology data, and postoperative health care utilization were assessed at each of the 4 time points by chart and electronic medical record review.

Statistical analysis of primary and secondary outcomes was performed using generalized estimating equations, and the correlation of repeated measures within subjects was accounted for via the robust standard used in generalized estimating equations. P values for the comparison in trends of each group over time were estimated using a difference-in-differences analysis. Significance was based on 2-sided $P \leq 0.05$. Survey results were adjusted for disease stage, bladder cancer treatment before cystectomy, multiple comorbidities, number of hospitalization, and hospitalization duration, as these variables had statistically significant differences between the intervention and control groups. All analyses were performed using the Intercooled Stata statistical software package (version 12.0; StataCorp LP, College Station, TX). Approval from the university's institutional review board was obtained for this study before data collection.

3. Results

3.1. Recruitment and enrollment

During the control study period, 57 patients underwent cystectomy, and all were assessed for participation in the