A Plea for a Uniform Surveillance Schedule After Radical Cystectomy

Guido Dalbagni,*,† Bernard H. Bochner,‡ Angel Cronin,† Harry W. Herr† and S. Machele Donat†

From the Urology Service, Department of Surgery (GD, BHB, HWH, SMD), and Department of Epidemiology and Biostatistics (AC), Memorial Sloan-Kettering Cancer Center, New York, New York

Purpose: The types of surveillance recommended after radical cystectomy and the degree of patient compliance are not well characterized. We identified the pattern of post-cystectomy surveillance recommended in the oncologic community and assessed compliance to a predetermined schedule among a small group of urologists.

Materials and Methods: A survey was sent inquiring about the number of patients followed after cystectomy, physician specialty, type of practice, whether the followup schedule was stage dependent, the frequency of office visits and the type of tests. To assess noncompliance to a strict followup schedule we analyzed the records of 647 patients who underwent radical cystectomy.

Results: The overall response rate to the survey was 37% (123 of 330). Of the respondents 96% were urologists, with 72% from United States academic centers, 13% from non-United States academic centers and 14% in private practice. In addition, 21% reported following yearly more than 100 patients after cystectomy, 29% between 51 and 100 patients, and 43% between 1 and 50. Of the respondents 60% tailored the followup schedule based on pathological stage. Computerized tomography of the abdomen and pelvis, chest x-ray and urine cytology were the most frequent tests used. Computerized tomography of the chest, magnetic resonance imaging and abdominal ultrasound were used occasionally.

Conclusions: There was significant deviation from a predetermined followup schedule. There was no uniformity among urological oncologists in post-cystectomy surveillance and there was lack of compliance to a predetermined followup schedule.

Key Words: urinary bladder neoplasms, follow-up studies, cystectomy, appointments and schedules, patient compliance

Abbreviations and Acronyms

CT = computerized tomography

IVP = excretory urography

Submitted for publication September 15, 2010.

Supported by The Sidney Kimmel Center for Prostate and Urologic Cancers.

Supplementary material for this article can be obtained at http://www.mskcc.org/survey/followup_stage.

* Correspondence: Division of Urology, Memorial Sloan-Kettering Cancer Center, Sidney Kimmel Center, 353 East 68th St., New York, New York 10021 (telephone: 646-422-4394; FAX: 212-988-0760; e-mail: dalbagng@mskcc.org).

† Nothing to disclose.

‡ Financial interest and/or other relationship with Tengion and Johnson & Johnson.

Editor's Note: This article is the first of 5 published in this issue for which category 1 CME credits can be earned. Instructions for obtaining credits are given with the questions on pages 2436 and 2437.

THE purpose of surveillance of patients who undergo radical cystectomy is to diagnose the development of urethral and upper tract urothelial disease, to detect metastasis and local recurrence, and to identify the presence of long-term complications of urinary diversion. Although an intensive followup can result in early detection, its utility has been challenged because of a lack of evidence that followup leads to improved outcomes.

A schedule for surveillance should be dependent on the natural history of the disease, and on the impact of early detection on the extent of needed treatment and the ability to effect a cure. We identified the pattern of surveillance after cystectomy in the oncologic community, predominantly among uro-oncologists. In addition, we assessed compliance to a predetermined schedule among a small group of urologists.

0022-5347/11/1856-2091/0
THE JOURNAL OF UROLOGY®

Vol. 185, 2091-2096, June 2011
Printed in U.S.A.
DOI:10.1016/j.juro.2011.01.082

MATERIALS AND METHODS

Survey

A survey was sent to 330 members of the Society of Urologic Oncology inquiring about the number of patients followed after cystectomy, the specialty (urologist, medical oncologist, radiation oncologist), the type of practice (United States academic, non-United States academic, private practice), whether the followup schedule was stage dependent, the frequency of office visits, type of tests (CT of abdomen and pelvis, chest CT, ultrasound, chest x-ray, magnetic resonance imaging, positron emission tomography, urine cytology and fluorescence in situ hybridization), and whether they would be willing to participate in a prospective randomized study evaluating patient survival and cost based on intensity of followup.

Compliance Analysis

To assess noncompliance to a strict followup schedule in the absence of a protocol, we analyzed data from 647 patients who underwent radical cystectomy at Memorial Sloan-Kettering Cancer Center from 2000 to 2005. All patients were treated by 1 of 4 urologists and analyses were performed separately for each urologist to allow for differences in followup schemes. All visits were categorized in 3-month intervals up to 24 months after surgery. Visits occurring 0.1 to 4.5 months from surgery were categorized as the 3-month followup visit, those 4.6 to 7.5 months from surgery were categorized as the 6-month followup visit (ie 6 ± 1.5 months) and subsequent visits were similarly assigned for the 9 to 24-month visits. Patients were considered compliant with the followup schedule if they showed up for every scheduled visit until the earlier of 24 months or time of death. Patients were considered noncompliant when the first scheduled visit was missed. The proportion of patients who were compliant following surgery was estimated using Kaplan-Meier methods. Statistical analyses were conducted using Stata® 11.0.

RESULTS

Survey Results

The overall response rate to the survey was 37% (123 of 330). Of the respondents 96% were urologists. Furthermore, 72% were from United States academic centers, 13% were from non-United States academic centers and 14% were in private practice (table 1). Of the respondents 21% were following yearly more than 100 patients treated with cystectomy, 29% were following between 51 and 100 patients, and 43% between 1 and 50. In addition, 60% of the respondents tailored the followup schedule based on pathological stage, and 80% were willing to participate in a prospective study to evaluate patient survival and cost. The followup routine for the urologists who indicated that followup is or is not dependent on the pathological stage is shown elsewhere. CT of the abdomen and pelvis, chest x-ray and urine cytology were the most frequent tests used. CT of the chest, magnetic resonance imaging and abdominal ultrasound were used occasionally. Positron emission tomography and fluorescence in situ hybridization were rarely used.

Table 1. *Characteristics of respondents*

	No. Overall (%)	No. Not Stage Dependent (%)	No. Stage Dependent (%)
No. pts	123	47	74
Specialty:			
Missing	1 (1)	1 (2)	0 (0)
Medical oncologist	3 (2)	2 (4)	1 (1)
Radiation oncologist	1 (1)	1 (2)	0 (0)
Urologist	118 (96)	43 (91)	73 (99)
Practice:			
Missing	1 (1)	0 (0)	1 (1)
Non-United States academic	16 (13)	5 (11)	11 (15)
Private practice	17 (14)	10 (21)	7 (9)
United States academic	89 (72)	32 (68)	55 (74)
Estimated annual vol:			
Missing	2 (2)	1 (2)	1 (1)
0	6 (5)	3 (6)	2 (3)
1–50	53 (43)	28 (60)	25 (34)
51–100	36 (29)	8 (17)	28 (38)
Greater than 100	26 (21)	7 (15)	18 (24)
Followup dependent on stage:			
Missing	2 (2)	0 (0)	0 (0)
No	47 (38)	47 (100)	0 (0)
Yes	74 (60)	0 (0)	74 (100)
Willing to participate in prospective study:			
Missing	5 (4)	1 (2)	4 (5)
No	19 (15)	13 (28)	5 (7)
Yes	99 (80)	33 (70)	65 (88)

Compliance Results

Table 2 summarizes the responses from each surgeon regarding followup strategy by pathological stage and by type of visit (clinic visit, cytology, chest x-ray and CT of the abdomen/pelvis). In general the surgeons had similar followup strategies, although 1 (surgeon 1) tended to be more conservative, with as many or more frequent proposed followup visits than the others. Figures 1 and 2 show the proportion of patients who were compliant with every scheduled followup visit and CT according to surgeon. The curves drop down only at scheduled followup visits because the first time that a patient could become noncompliant was at 3 months after surgery and all other opportunities to become noncompliant occurred at subsequent followup visits.

DISCUSSION

We have shown that there is no uniformity among urological oncologists in the post-cystectomy followup and that there is lack of compliance to a predetermined followup schedule. But do we really need to follow those patients? Urethral recurrence rates suggest that we do not. Urethral recurrence following radical cystectomy ranged from 0.7% to