Prostate Cancer Risk Estimation Tool Use by Members of the American Urological Association: A Survey Based Study

Brandon J. Otto, E. Charles Osterberg, Sanjay Salgado, Douglas S. Scherr and Shahrokh F. Shariat*

From the Departments of Urology, New York Presbyterian Hospital, Weill Cornell Medical College (BJO, ECO, SS, DSS, SFS), New York, New York, and Vienna General Hospital, Medical University of Vienna (SFS), Vienna, Austria

Accepted for publication December 22, 2014.

Study received institutional review board approval.

* Correspondence: Department of Urology, Weill Medical College of Cornell University, 525 East 68th St., Starr 900, New York, New York (FAX: 212-746-0975; e-mail: sfshariat@gmail.com).

Purpose: Prostate cancer risk estimation tools have been developed to help guide patients and physicians with clinical decision making across all disease states. We assessed use patterns of these tools using an online survey sent to AUA (American Urological Association) members.

Materials and Methods: We distributed a 21-question online survey to 5,674 AUA members to query prostate cancer risk estimation tool use. The survey was divided into 4 categories, including 1) demographics, 2) prebiopsy risk assessment, 3) pretreatment risk assessment and 4) risk estimation tool use.

Results: A total of 565 members (10%) responded to the online survey, of whom 31% reported using a risk estimation tool in the prebiopsy decision setting. Providers who spent more than 20 minutes counseling patients were more likely to use a risk estimation tool (OR 2.2, $p < 0.01$). After the prostate cancer diagnosis 70% of providers used a risk estimation tools to guide treatment recommendations. The total time spent counseling a patient (greater than 30 minutes) and the number of years in practice (fewer than 10) predicted prostate cancer risk tool use (OR 2.4, $p < 0.01$ and 3.4, $p < 0.01$, respectively).

Conclusions: AUA respondents use risk estimation tools more frequently in the pretreatment setting than in the prebiopsy setting. The time spent counseling patients and the time since graduation from residency predicted the likelihood of using risk estimation tools.

Key Words: prostatic neoplasms, risk, physician's practice patterns, questionnaires, nomograms

In 2014 prostate cancer remained the number 1 male cancer type in the United States with 233,000 estimated new cases and the second leading cause of cancer death with 29,480 cancer related deaths.[1]

Despite the high prevalence of prostate cancer decisions on screening, biopsy and management remain highly debated and complex. Traditionally urologist decisions regarding prostate cancer have been based on urologist knowledge and expertise. Unfortunately this approach can introduce several biases in the diagnostic and treatment stages of care.[2] In addition, urologist decisions tend to be inconsistent, especially as they become more difficult.[3] To assist urologists and patients with these decisions various risk

0022-5347/15/1936-1933/0
THE JOURNAL OF UROLOGY®

http://dx.doi.org/10.1016/j.juro.2014.12.090
Vol. 193, 1933-1937, June 2015
Printed in U.S.A.

estimation tools have been developed. The NCCN® (National Comprehensive Cancer Network®) and the AUA recommend that physicians incorporate prostate cancer risk stratification to help advise patients on the best individual options.[4,5]

To date there remain more than 100 prostate cancer risk estimation tools.[6] These risk estimators use clinical and pathological features to predict various risks in multiple settings, including before biopsy, and before and after treatment. They tend to perform as well as or even better than clinical judgment to predict outcome probabilities.[7] Several risk analysis methods have been applied, including risk categories such as D'Amico risk groups, probability tables such as the Partin tables, risk scores such as the UCSF-CAPRA (University of California-San Francisco Cancer of the Prostate Risk Assessment) score and nomograms such as the Kattan nomogram.[8–11] Despite the abundance of risk estimation tools for prostate cancer to our knowledge it is unknown whether urologists are incorporating these tools into clinical practices.

We identified the practice patterns of AUA members and predictors of the use of prostate cancer risk estimation tools by urologists in the prebiopsy and pretreatment settings.

METHODS

Survey

We developed a survey targeted to AUA members listed in the AUA directory. The survey was composed of 21 questions in 4 categories, including 1) demographics, 2) prebiopsy risk assessment, 3) pretreatment risk assessment and 4) risk estimation tool use. Each category queried respondent practice patterns and the application of prostate cancer risk estimation tools. We pilot tested our survey in a sample of 20 urologists and finalized the wording and organization of the 21 questions pending feedback. The survey instrument (supplementary material, http://jurology.com/) was not validated in the prior literature.

Questionnaire Administration

After obtaining institutional review board approval we electronically delivered the final survey instrument via SurveyMonkey® to a random sample of 5,674 AUA members listed in the 2012 to 2013 membership directory. Potential respondents were selected by an automated number generator. Each randomly selected number corresponded to a member name on the given page of the directory. This process was repeated on all 356 directory pages until we achieved a 10% response rate. Potential respondents had to have a United States mailing address and an e-mail address listed in the directory. The survey was active for respondent accrual from March 2013 through May 2013. Each eligible respondent was e-mailed a cover letter with a hyperlink to the electronic survey. Nonresponders were e-mailed a reminder cover letter each week in 2 successive waves during the 8-week accrual period. At the conclusion of the survey data were maintained and organized with SurveyMonkey software. Any respondent identifiers were removed before analysis.

Statistical Analysis

All data were extracted and exported to SPSS®, version 20. Respondent frequencies and percents were calculated for all questions. Bivariate associations of practice patterns and risk estimation tool use were calculated using the Pearson chi-square test. Multivariate logistic regression was performed to detect significant predictors and the odds of risk estimation tool use and practice patterns. Statistical significance for all cases was considered at $p < 0.05$.

RESULTS

Of the 5,674 AUA members surveyed 565 responded for an overall 9.96% response rate. Table 1 lists the

Table 1. *Baseline demographics of 565 respondents*

	No. Respondents (%)
AUA section:	
Northeast	21 (4.4)
New England	31 (6.5)
New York	43 (9.1)
Mid-Atlantic	58 (12.2)
Southeastern	105 (22.2)
North Central	74 (15.6)
South Central	57 (12.0)
Western	82 (17.3)
Practice yrs:	
Less than 1	15 (3.2)
1—5	62 (13.1)
6—10	88 (18.6)
11—20	101 (21.3)
Greater than 20	208 (43.9)
Practice type:	
Academic	128 (26.0)
Solo private	58 (11.8)
Group private	195 (39.6)
Multispecialty group	74 (15.0)
Other	37 (7.5)
Fellowship type:	
Urological oncology	93 (49.7)
Endourology	32 (17.1)
Female	17 (9.1)
Infertility/andrology	7 (3.7)
Men health/erectile dysfunction	7 (3.7)
Reconstructive/trauma	7 (3.7)
Pediatrics	6 (3.2)
Transplantation	2 (1.1)
Other	16 (8.6)
Reasons not to use risk tool:	
I do not use one	110 (13.6)
Familiarity	209 (25.9)
Training program used	68 (8.4)
Most literature support	67 (8.3)
Most user friendly	104 (12.9)
Most accurate	26 (3.2)
Easiest for patient to understand	98 (12.1)
Other	20 (2.5)
How tools are accessed:	
Mobile device	32 (9.3)
Personal computer	175 (51)
Tablet	20 (5.8)
Paper/printout	81 (23.6)
Memorization	29 (8.5)
Other	6 (1.7)