Predictors of Prostate Cancer Reclassification Among Men Managed with Active Surveillance

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Introduction and Objective

A significant percentage of men undergoing initial active surveillance (AS) for low risk prostate cancer, will show evidence of disease reclassification over time, in which case a transition to definitive treatment is often recommended. Unfortunately, there are no universally-accepted protocols for following patients on AS. We aimed to assess how the type and intensity of follow-up protocols are associated with reclassification rate for patients undergoing AS.

Methods

We analyzed the Pennsylvania Urologic Regional Collaborative (PURC), a group of 9 urology practices in Pennsylvania and southern New Jersey, to identify men with prostate cancer initially managed with AS. Reclassification was defined as an increase in Gleason scores on surveillance, compared to initial, prostate biopsy. We used conditional logistic regression analysis to test for associations between the rate of surveillance biopsies, PSA tests, and rectal exams with the likelihood of disease reclassification.

Results

Of 922 patients initially managed with AS, 89 (9.7%) reclassified over a median follow up of 12 (range 8 – 17) months. Results of the conditional logistic regression model are shown in table 1. The number of surveillance biopsies, rate of PSA testing, advanced age, and longer time on AS were significantly associated with reclassification. The other variables studied were not significantly associated with disease reclassification in the model.

Conclusion

A moderate number of AS patients were noted to have disease reclassification over short term follow up. The frequency of surveillance biopsies and PSA testing were associated with reclassification rates, along with increasing age and time on AS. Future efforts should focus on identifying surveillance protocols that optimize the detection of higher risk tumors with minimizing patient morbidity.

Variable	OR (95% CI)	p-value
Number of Biopsies (per biopsy)	7.33 (3.76, 14.31)	<0.001*
Rate of PSA Tests (tests per year)	3.21 (1.56, 6.61)	0.05*
Age (per year increase)	1.20 (1.02, 1.18)	0.02*
Time (years)	0.99 (0.98, 0.99)	<0.001*
Positive Digital Rectal Exam	1.46 (0.64, 3.31)	0.36
BMI (per unit increase)	1.00 (0.92, 1.10)	0.95
Positive Family History	0.56 (0.17, 1.85)	0.34
African American Race	0.70 (0.16, 3.11)	0.64

*Table 1: Adjusted Conditional Logistic Regression Model. * denotes significance. Other race categories excluded due to small sample size.*