

Variation in use of confirmatory testing among active surveillance candidates

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INTRODUCTION AND OBJECTIVES: Recognizing the importance of fully characterizing cancer severity prior to Active Surveillance (AS), many advocate for confirmatory testing (e.g., repeat biopsy, MRI) shortly after prostate cancer (CaP) diagnosis. In this context, we examined utilization of such testing among AS eligible men across urology practices in Michigan.

METHODS: The Michigan Urological Surgery Improvement Collaborative (MUSIC) is a consortium of 43 urology practices. We identified all men with newly-diagnosed CaP entered into the collaborative's registry from January 2012 through April 2016 that met MUSIC's published AS appropriateness criteria (i.e., age < 80, any Gleason Score ≤6 or Gleason Score 3+4 with ≤3 positive cores and no more than 50% of any core involved). Among men with sufficient follow-up, we first calculated the proportion that received a confirmatory test (defined as receipt of a repeat prostate biopsy or prostate MRI) within 6 months and 12 months after diagnosis, respectively. For practices with at least 10 AS eligible patients, we then assessed practice-level variation in the rates of confirmatory testing. Finally, we fit regression models to identify characteristics associated with receipt of a confirmatory test.

RESULTS: During this time period, 434/5,292 (7.6 %) and 695/4,614 (15.1%) eligible men received confirmatory testing within 6 and 12 months of diagnosis, respectively. At a practice level, rates of confirmatory testing varied widely for both the 6- (0 % to 27.5%; p<0.001) and 12-month intervals (0 % to 60.0%; p<0.001) (Figure). Patients with GS 3+4 tumors and PSA levels > 4 were less likely to undergo confirmatory testing, while such tests were more frequent among patients diagnosed more recently and in larger practices (Table).

CONCLUSIONS: Although increasing over time, utilization of repeat biopsy or prostate MRI to confirm risk stratification among men who are candidates for AS has been uncommon and highly variable across urology practices. These data have prompted ongoing efforts in MUSIC to increase and standardize use of such tests among men considering AS.

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Table. Patient characteristics and modelling results. Statistically significant findings are **bold**

	6 month follow-up cohort		12 month follow-up cohort	
	Patient Characteristics	Predictors of receiving confirmatory testing from regression model (OR) [95% CI]	Patient Characteristics	Predictors of receiving confirmatory testing from regression model (OR) [95% CI]
No. of Patients	5,719	n/a	4,593	n/a
PSA level (%)				
≤4 ng/mL	1267 (22.2)	1	1047 (22.8)	1
>4 ng/mL	4256 (74.4)	0.71 [0.61-0.84]	3376 (73.5)	0.80 [0.70-0.92]
Gleason Score (%)				
≤6	4297 (75.1)	1	3458 (75.3)	1
3+4	1422 (24.9)	0.22 [0.13-0.37]	1135 (24.7)	0.23 [0.15-0.34]
Practice size (%)				
1-4 urologists	1833 (32.1)	1	1421 (30.9)	1
5-10 urologists	1550 (27.1)	2.57 [1.23-5.36]	1303 (28.4)	1.75 [0.92-3.31]
>10 urologists	1793 (31.4)	4.63 [1.47-14.57]	1478 (32.2)	2.59 [1.04-6.46]
Year of Diagnosis (%)				
2012	421 (7.4)	1	421 (9.2)	1
2013	1026 (17.9)	1.34 [0.89-2.03]	1024 (22.2)	1.74 [1.34-2.26]
2014	1516 (26.5)	1.60 [1.06-2.41]	1513 (32.9)	1.86 [1.36-2.53]
2015	2033 (35.5)	2.19 [1.39-3.45]	1635 (35.6)	2.09 [1.51-2.90]
2016	723 (12.6)	1.40 [0.79 - 2.50]	n/a	n/a

