24-5708

Appropriateness of active surveillance based on life expectancy predictions in MUSIC-KIDNEY

Yuzhi Wang[1], *Mackenzie Gammons*[2], *Monica Van Til*[2], *Andrew Krumm*[2], *Mahin Mirza*[2], *Austin Fernstrum*[3], *Alice Semerjian*[2], *Craig G. Rogers*[1], *Brian R. Lane*[4], *for the Michigan Urological Surgery Improvement Collaborative*[2]

[1]Henry Ford Hospital, Detroit, MI, [2]University of Michigan Medical School, Ann Arbor, MI, [3]Bronson Urology & Continence Specialists, Kalamazoo, MI, [4]Corewell Health Hospital System, Grand Rapids, MI

INTRODUCTION AND OBJECTIVE: Active surveillance (AS) for T1 renal masses (T1RMs) is rising, with previously reported rates of < 12%. Approximately 50% of MUSIC patients with T1RM choose AS. This difference raises questions about appropriateness and potential over utilization. We assessed use of AS in Michigan with pre-determined categories in which AS was deemed appropriate, uncertain, or inappropriate.

METHODS: MUSIC-KIDNEY is a statewide quality improvement (QI) collaborative that maintains a prospective registry of newly diagnosed RM. All patients diagnosed with suspicious RM from June 2016 to June 2023 were stratified by initial management (AS vs. all other treatments). Patient, tumor, and treatment factors were compared between cohorts via Chi-squared test. Life expectancy was calculated using the Kidney Cancer Mortality calculator. Each patient was categorized as appropriate, uncertain, or inappropriate for AS based on initial tumor size and life expectancy per the MUSIC Consensus panel. McNemar's test was used to determine disagreement.

RESULTS: Of 3,968 patients with suspicious RM, 43.4% initially chose AS. 53% of T1a, 20% of T1b, and 8.5% of ≥T2 masses underwent AS. The treatment group had more T1b (33% vs. 11%) and stage II-IV (5.7% vs. 0.70%) disease ($p<0.001$). The AS group had higher overall comorbidity burden, including CKD (31% vs. 21%,), CHF (7.5% vs. 3.4%), PVD (5.8% vs. 2.5%), and CVD (6.9% vs. 4.1%), $p<0.001$ for each. Of 1,721 patients who chose AS, 1311 (76%) were appropriate for AS, 216 patients uncertain (13%), and 194 patients inappropriate (11%) (Figure). Of 2,247 patients who chose treatment, 39% were inappropriate for AS. Excluding patients in the uncertain category, 55% of patients received the appropriate management modality. There was significant disagreement between appropriate treatment determined by the life expectancy calculator and actual treatment received ($p<0.001$).

CONCLUSIONS: MUSIC-KIDNEY data indicate that patients who met the appropriateness criteria for AS were more likely to receive AS than those in uncertain and inappropriate categories. Nevertheless, almost half of patients received discordant treatment. These findings indicate QI opportunities to promote education on risk stratification and appropriate treatment selection. Ultimately, using tools can help counsel patients and optimize care for renal masses across diverse populations and practice settings.

Source of Funding: Blue Cross Blue Shield of Michigan

Figure. Rates of AS for patients with suspicious RM according to clinical tumor size and predicted life expectancy (LE). LE was calculated with the MUSIC Kidney Cancer Mortality tool (https://askmusic.med.umich.edu/tools/kidney-cancer-mortality-tool). This previously published model was created by the MUSIC Delphi Consensus panel and each patient fits into one box based on tumor size and LE. The green boxes include patients who are appropriate for AS; red boxes include patients who are inappropriate for AS; grey boxes include patients where AS appropriateness is uncertain. Indicated are the percentage of patients who received AS (AS patients / total patients). No patients had LE <1 year.

	< 3 cm	3-3.9 cm	4-4.9 cm	5-5.9 cm	6-6.9 cm	≥ 7cm
< 1 year	-	-	-	-	-	-
1-5 years	50% (1/2)	67% (2/3)	25% (1/4)	25% (1/4)	67% (2/3)	17% (2/12)
6-10 years	71% (12/17)	56% (9/16)	43% (6/14)	25% (2/8)	41% (7/17)	17% (5/29)
> 10 years	60% (1285/2127)	30% (204/683)	22% (107/484)	18% (48/271)	11% (20/183)	7.7% (7/91)

Print Close