High-risk Disease and Poor Follow-up: The Importance of Renal Mass Biopsy in a Cohort of Veterans

Objective: To assess the clinical utility of renal mass biopsy (RMB) in our multistate system. RMB is useful in the management of masses ≤4 cm (T1a), but evaluation of RMB in the uniquely vulnerable Veteran population is lacking.

Methods: About 136 RMB in 130 patients performed between 06/2015 and 11/2020 were identified in this Quality Improvement analysis. Demographics, size, pathology, treatment, and biopsy complications were analyzed. Of 101 T1a masses, 89 were either diagnostic or not decompressed cysts and 77 met inclusion criteria for follow-up imaging compliance analysis.

Results: The median age was 66 years. The diagnostic rate was 94.1% (128/136) for all masses and 94.1% (95/101) for T1a renal masses, with a complication rate of 2.2%. Among solid T1a masses, unexpectedly aggressive lesions (Fuhrman Grade 4, Type 2 papillary or sarcomatoid features) were identified in 8/89 (9.0%). Fifty-seven (64%) patients were treated with cryoablation or surgery and 32 (36%) patients elected active surveillance (AS). A neoplastic finding (oncocytoma or renal cell carcinoma (RCC)) was present in 16 patients choosing AS (50%) compared to 52 patients choosing treatment (91%). Compliance with National Comprehensive Cancer Network-recommended imaging was 50% and 47% for AS and treatment groups, respectively.

Conclusion: In this VA cohort, we found a significant incidence of high-risk lesions and poor compliance with follow-up imaging. Aggressive biopsy protocols with high consideration of treatment may be appropriate to limit risk in those lost to follow-up. Given that 9% of our small renal masses were highly aggressive, biopsy may be critical in the selection of AS candidates.