**Introduction**

- Renal mass biopsy (RMB) is increasingly used in the clinical management of renal masses, especially for masses ≤ 4 cm (T1a).
- Prior studies on RMB utility have demonstrated low complication rates and high sensitivity for detecting malignancies.
- However, the diagnostic utility, safety profile and follow-up rates after RMB have not yet been widely studied in the VA population.
- In this quality improvement study, we sought to review utility of this procedure for identification and management of renal cell carcinoma (RCC) in the setting of the unique and comorbid population of our Veteran Affairs Hospital.

**Methods**

- From 136 renal mass biopsies performed between 06/2015 and 11/2020, 89 patients with T1a lesions were identified.
- Mass size, biopsy pathology, treatment and imaging compliance were analyzed.
- Surveillance compliance was compared to the National Comprehensive Cancer Network guidelines for each modality.

**Results**

<table>
<thead>
<tr>
<th>Biopsy Diagnostic Rate</th>
<th>N, (%)</th>
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<tr>
<td>Complication Rate</td>
<td>2 (2%)</td>
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<tr>
<td>Aggressive Lesions</td>
<td>8 (9%)</td>
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<tr>
<td>Benign or Indolent Processes</td>
<td>28 (31.5%)</td>
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<tr>
<td>Patients Opting for Active Surveillance (AS) of Renal Mass</td>
<td>32 (36%)</td>
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- Biopsy of T1a renal masses yielded diagnostic results in 96.5% with a complication rate of 2%: one retroperitoneal bleed treated with observation and one hemorrhage requiring embolization (Clavien Grades 1 and 3).
- Findings of unexpectedly aggressive lesions (Fuhrman Grade 4, Type 2 Papillary RCC or sarcomatoid features) were identified by biopsy in 8 (9%) patients.
- 36% of patients opted for active surveillance.
- 16 patients in the AS group (50%) had a neoplastic RMB finding (oncocytoma or RCC), compared to 52 in the treatment group (91.5%).

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**Conclusions**

- At the second follow-up, compliance with NCCN-recommended imaging was 50% for surveillance, 47% among those undergoing cryoablation and 47% among those undergoing partial or radical nephrectomy.
- In this cohort, we found a significant incidence of high-risk lesions on RMB and saw poor compliance with follow-up imaging despite vigorous attempts to adhere to NCCN guidelines.
- Given that 9% of our small renal masses were highly aggressive, a significant percentage of patients may be at especially high risk in an active surveillance setting.
- More aggressive biopsy protocols with high consideration of treatment may be appropriate.

**Selected References**
