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**Three-Year Follow-Up for Surveillance of T1 Renal Masses: A MUSIC-KIDNEY Analysis**

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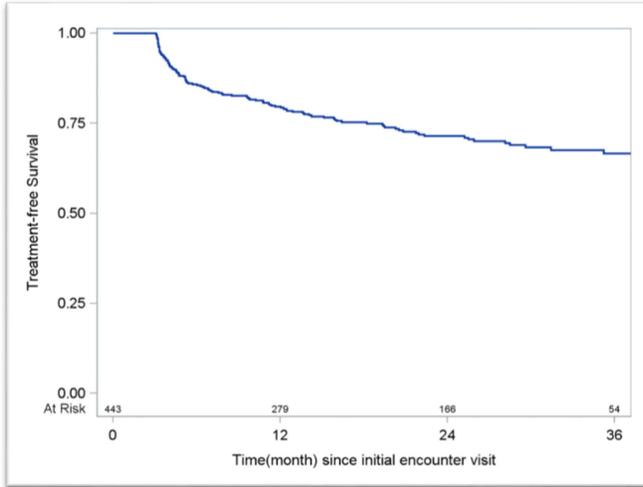
**INTRODUCTION AND OBJECTIVE:** Questions remain regarding the durability of surveillance as a management option for cT1 renal masses (T1RM). MUSIC-KIDNEY prospectively collects data regarding patients with newly diagnosed T1RM that are evaluated in any of 21 Michigan urologic practices. We evaluated imaging study performance and delayed intervention for patients who were initially placed on surveillance prior to 2020.

**METHODS:** Between 5/2017 and 12/2019, patients in the MUSIC-KIDNEY registry who were initially managed without definitive treatment within 90 days of initial evaluation for T1RM were included. Follow-up imaging studies and treatment data were summarized. Treatment-free survival was calculated using the Kaplan-Meier method.

**RESULTS:** A total of 443 patients were managed without definitive treatment within 90 days, including 347 (78%) with solid, 49 (11%) with complex cystic (Bosniak III-IV), and 47 (11%) with indeterminate T1RM. Median length of follow up since initial urology encounter was 26 months (IQR 13-34). Median age was 69 (IQR 59-77). Median tumor size was 2.2cm (IQR 1.5-3.2). After initiating surveillance, 36 patients have died (1 from prostate cancer, 1 from kidney cancer, 30 from other causes, 4 from unknown causes). Among patients with at least 1 year of clinical follow-up (n=339), 202 (60%) received at least one follow up imaging study during the 1st year. 59 (17%) underwent treatment during the 1st year, including radical nephrectomy (RN) (n=17), partial nephrectomy (PN) (n=32), tumor ablation (TA) (n=8), and stereotactic body radiation therapy (SBRT) (n=2). Among patients with at least 2 years of follow up (n=233), 113 (48%) received at least one follow up imaging study per year. During these 2 years, 66 (28%) were treated, including 19 RN, 34 PN, 8 TA, and 5 SBRT. Three-year treatment-free survival for all T1RM was 67% (95% CI 61%-72%) (Figure).

**CONCLUSIONS:** MUSIC data demonstrate that surveillance is a durable option for management of T1RM, with over 65% of patients initially managed without intervention remaining treatment-free at 3 years. Future investigations will include examining predictors of delayed intervention and outcomes of delayed vs. primary intervention.

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**Figure 1: Treatment-free survival for T1RM on surveillance**