

23-7800

Practice and surgeon-level variation in the surgical management of T1a renal masses: Results from a statewide collaborative

Samantha Wilder, Detroit, MI, Mahmoud Hijazi, Ann Arbor, MI, Ananya Vittal, Detroit, MI, Ji Qi, Mahin Mirza, Ann Arbor, MI, Mohammad Jafri, Royal Oak, MI, Brian Lane, Grand Rapids, MI, Craig Rogers, Detroit, MI, for the Michigan Urological Surgery Improvement Collaborative, Ann Arbor, MI*

INTRODUCTION AND OBJECTIVE: Current guidelines recommend prioritizing partial nephrectomy (PN) over radical nephrectomy (RN) in the management of cT1a renal masses (T1aRM). We examined variation in PN use for surgically treated T1aRM and identified factors associated with PN use in the MUSIC-KIDNEY collaborative.

METHODS: All patients in the MUSIC-KIDNEY registry undergoing surgery for T1aRM between 5/2017 and 5/2022 were included. Practice- and surgeon-level variation in use of PN (vs RN) were evaluated among those who treated at least 5 patients surgically. Multivariable mixed-effects logistic regression model was performed to identify factors associated with PN use. Rates of prolonged hospitalization (>3 days for minimally invasive, >5 days for open), 30-day emergency department (ED) visits, and 30-day readmissions were compared between patients undergoing PN and RN, using Chi-squared test or Fisher's exact test.

RESULTS: 1014 surgically treated T1aRM patients from 14 practices and 68 surgeons were included. Among these, 843 (83%) underwent PN and 171 (17%) underwent RN. Rates of utilization of PN ranged from 50-93% across practices and 38-100% across surgeons (Figure). Low patient comorbidity, preoperative GFR>60, and low nephrometry score (RENL 4-6) were associated with increased use of PN ($p<0.05$). Postoperative ED visit rates were low for both RN and PN (3.5% vs 2.6%) and did not differ significantly ($p>0.05$). RN was associated with higher rates of prolonged hospitalization (19% vs 7.7%, $p<0.05$) and readmission (5.9% vs 2.9%, $p<0.05$).

CONCLUSIONS: Over 80% of surgically treated T1aRM underwent PN in MUSIC-KIDNEY with variation across practices and surgeons. Association of high preoperative GFR with PN may be related to the high rates of surveillance (>50%) for T1aRM in MUSIC-KIDNEY for masses that may have otherwise undergone PN. Higher rates of prolonged hospitalization and readmission for RN may be related to higher baseline comorbidity. Quality improvement initiatives within MUSIC-KIDNEY include a PN video library and live peer-to-peer review sessions with the goal of increasing surgeon comfort and skill in PN.

Source of Funding: Blue Cross Blue Shield of Michigan

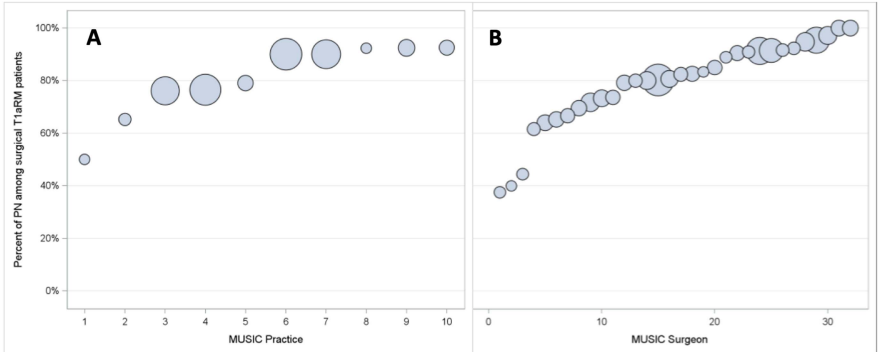


Figure: Variation in PN rates across MUSIC (A) Practice and (B) Surgeon, with size of bubble corresponding to case volume