

Stent Omission in Prestented Patients Undergoing Ureteroscopy Decreases Unplanned Healthcare Utilization

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INTRODUCTION AND OBJECTIVE: AUA guidelines advocate stent omission after uncomplicated URS in patients with ≥ 1.5 cm stones, but prestening is not considered as criteria for stent omission. We aimed to determine if prestening patients should be included in the criteria for stent omission within the Michigan Urological Surgery Improvement Collaborative (MUSIC).

METHODS: Using the MUSIC clinical registry we identified uncomplicated URS cases from 2016 to 2019. We defined this as low comorbidity (≤ 1 CCI), no anticoagulation/antiplatelet therapy, no anatomic abnormality, no positive preoperative urinalysis or culture, single stage procedure for ≤ 1.5 cm stone, and no intraoperative complication. We divided cases into prestened and non-prestened groups. We assessed practice and surgeon variation in stent omission in those with ≥ 5 cases in each category. We fit multivariable models to assess if prestening was associated with 30-day emergency department (ED) visits.

RESULTS: In total, 6263 uncomplicated URS were performed in 33 practices by 209 surgeons. 2243 (36%) patients were prestened. Stent omission rates in prestened and non-prestened cases were 47.3% (range 0-77.8%) and 26.3% (range 0-62.1%), respectively (Fig. A). 15/17 (88%) practices performed stent omission at higher rates if the patient was prestened. Surgeon-level data in prestened patients demonstrated stent omission rates from 0 to 100%, with 22.3% never performing stent omission (Fig. B). Prestened cases that were stented, compared to stent omission, had higher rates of ED visit (6% vs 3.1%, $p < 0.0001$) and unplanned hospitalization (2.6% vs 1.3%, $p < 0.0001$). In non-prestened cases, there were no significant differences in ED visits (7.7% vs 8.3%; $p = 0.48$) or hospitalization (2.2% vs 1.9%; $p = 0.63$) in those stented vs stent omitted, respectively. Multivariate analysis demonstrated stenting in prestened cases was associated with increased ED visits (OR: 2.12; 95%CI: 1.37-3.29, $p < 0.001$).

CONCLUSIONS: Data from our clinical registry shows that stent omission in prestened patients undergoing URS decreases unplanned healthcare utilization, and this scenario is an opportunity for quality improvement. Prestening should be considered an inclusion criteria for stent omission in the AUA stone management guidelines.

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Figure. A. Variation in rates of stent omission for pre-stented and non-prestented patients undergoing URS in MUSIC practices with ≥ 5 uncomplicated cases in each category. **B.** Variation in rates of stent omission for prestented patients undergoing URS by surgeons in MUSIC with ≥ 5 uncomplicated cases. Dashed line indicates mean stent omission rates.

