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To stent or not after using a ureteral access sheath for ureteroscopy? Practice patterns, emergency department visit rates and patient reported outcomes

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INTRODUCTION AND OBJECTIVE:

AUA guidelines do not provide recommendations on stent omission after uncomplicated ureteroscopy (URS) when using a ureteral access sheath (UAS). Early studies found higher post-operative day 1 pain scores in patients undergoing stent omission when a UAS was used, and routine stenting became dogma. We evaluated practice patterns of stent omission vs placement after URS using a UAS in Michigan, and also compared patient-reported outcomes (PRO) to determine if stent omission was associated with more pain.

METHODS:

Using the Michigan Urological Surgery Improvement Collaborative (MUSIC) clinical registry, we identified all patients who underwent unilateral URS for urinary stones using a UAS. Patients were categorized into stent omission vs placement cohorts. We plotted stenting rates across practices stratified by pre-stenting status. We compared demographic, clinical data and 30-day ED visit rates between groups using chi-squared and Wilcoxon rank sum tests. A subgroup of patients who completed the NIH PROMIS® questionnaires for Pain Intensity and Interference at baseline and 7-10 days were examined. Linear regression models were used to compare pain scores between stent placement and omission adjusting for pre-stenting, stone location and baseline pain.

RESULTS:

Of 16,819 patients (7,313 pre-stented, 9,506 non pre-stented) who underwent URS using a UAS, a stent was omitted in 1960 (12%). In this group 1376 (70%) were pre-stented. Stent omission was more likely to be performed for younger patients, stones <7mm, Charlson comorbidity score 0, ureteral stones and pre-stented patients. There was greater variation in stenting after URS across practices when patients were pre-stented (Figure). ED visits were significantly lower in stent omission patients (5% vs 8%; p<0.001). Of 581 patients who had all PROs recorded, 61 (10%) underwent stent omission: 43 were pre-stented and 18 non pre-stented. There was no significant difference in 7-10 day Pain Interference (59.4 vs 58.1) nor Pain Intensity (55.6 vs 55.0) between these cohorts.

CONCLUSIONS:

Approximately 1 in 10 patients had stent omission after UAS use during URS. This practice is more common, but has greater variability in pre-stented patients. The lower ED visit rates and comparable pain scores in patients with stent omission challenge the current practice of routine stenting when a UAS is used and suggest a selective approach may be feasible.

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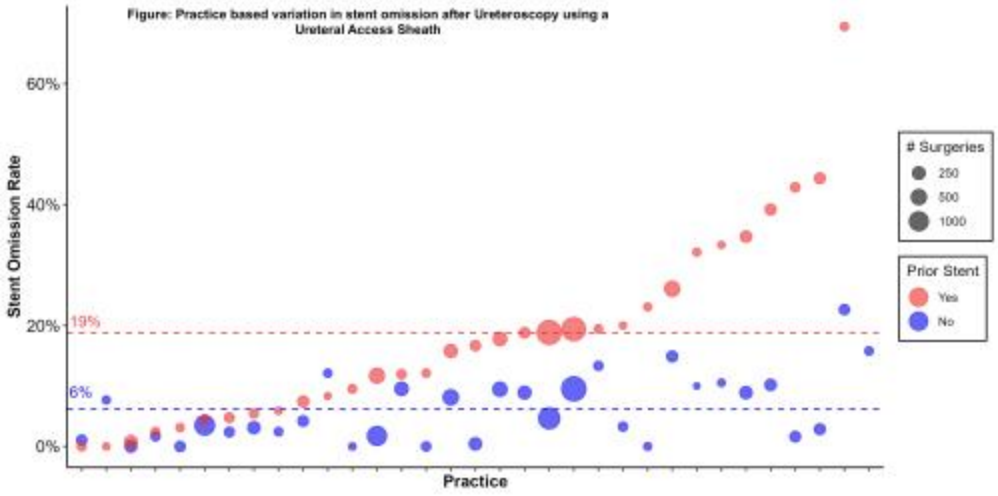
Figure: Practice based variation in stent omission after Ureteroscopy using a Ureteral Access Sheath
Stent Omission Rate
60%
40%
20%
0%
19%
6%
Practice
Surgeries
250
500
1000
Prior Stent
Yes
No

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