

PRACTICE PATTERNS AND UNPLANNED HEALTHCARE ENCOUNTERS FOR SHOCKWAVE LITHOTRIPSY IN A STATEWIDE SURGICAL COLLABORATIVE

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INTRODUCTION AND OBJECTIVES: Recent national level administrative data have demonstrated unplanned healthcare encounters after shockwave lithotripsy (SWL) to be as high as 12%. To inform quality improvement (QI) efforts targeted at improving care for patients with urinary stone disease, we assessed practice patterns for SWL using clinical registry data from the Michigan Urological Surgery Improvement Collaborative (MUSIC).

METHODS: Reducing Operative Complications from Kidney Stones (ROCKS) is a new QI initiative from MUSIC involving 10 urology practices in Michigan. For patients undergoing SWL, trained abstractors prospectively record standardized data elements from the health record in a web-based registry including patient demographics, comorbidity, stone characteristics, and surgical details. We identified all patients undergoing a primary SWL treated between August 2016 and September 2017. We determined emergency department (ED) visits, unplanned office visits, or hospitalization within 30 days of surgery, and we evaluated perioperative factors associated with such a visit.

RESULTS: 817 SWL procedures were analyzed. BMI distribution for patients was: <30 (59%), 30-<35 (22%), 35-<40 (11%) and ≥ 40 (8%). At the time of SWL, 12.8% and 20.2% of patients had a history of positive urine culture and antiplatelet medication, respectively. Median stone size was 8 mm (range 0-38). Stone location was renal (73%), ureteral (17%) and renal/ureteral (10%). Ureteral stents were in place at the time of SWL in 20% (practice variation 0% to 30%). Frequency of unplanned office, ED visit and hospitalization within 30 days was 1.4%, 4.9% and 1.4%, respectively. Rates for ED visits in 8 practices performing >10 cases varied from 0% to 7.5% (Figure). The main reason for an ED visit was flank pain/hematuria (32%). Factors significantly associated ($p < 0.01$) with an ED visit included insurance status and presence of ureteral stent. Stone-free rates for SWL were significantly higher for ureteral vs renal stones (70% vs 41%, $p < 0.001$).

CONCLUSIONS: Our multi-institutional statewide analysis reveals that unplanned healthcare encounters after SWL are much lower than previously shown, with 1 in 20 patients visiting the ED within 30 days. The low morbidity profile of SWL comes at the consequence of a low stone-free rate for renal stones.

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