INTRODUCTION AND OBJECTIVE: Ureteroscopy (URS) is recommended as the first line therapy in patients with urolithiasis and uncorrected bleeding diathesis requiring intervention. However, data regarding its safety is inconsistent with recent studies demonstrating an increased risk of complications. We examined the risk of emergency department (ED) visits and hospitalizations following URS in patients taking anti-platelet (AP) or anti-coagulant (AC) therapy in the state of Michigan.

METHODS: We used data from the Michigan Urological Surgery Improvement Collaborative’s Reducing Operative Complications from Kidney Stones (MUSIC ROCKS) prospective clinical registry to identify patients undergoing URS for urinary stones from June 2016 to May 2019. Demographic and clinical outcomes were compared between three groups of patients based on therapy at time of URS: (1) taking AP agent (clopidogrel or aspirin), (2) taking AC agent (coumadin or novel oral agent), (3) not on AP/AC agents. Multivariate analysis (MVA) with generalized estimating equation models were performed adjusting for age, comorbidity, positive urine culture, stone location, stone size and ureteral stent placement to assess for the independent association between AC or AP use and ED visits or hospitalization within 30 days.

RESULTS: We identified 9982 URS cases from 24 practices, of which 776 (7.8%) were performed without discontinuing AP therapy, and 306 (3.1%) were on AC therapy at time of URS. The adjusted rates of ED visit and hospitalization are provided in Figure 1. On MVA, neither AC (OR 1.36; 95% CI 0.87-2.12, p=0.17) nor AP therapy (OR 1.32; 95% CI 0.97-1.78, p=0.075) at the time of URS was associated with an increased risk of an ED visit when compared to patients not on AC/AP therapy. Similarly, neither AC (OR 1.33; 95% CI 0.71-2.50, p=0.4) nor AP (OR 1.5; 95% CI 0.99-2.28, p=0.055) therapy at the time of URS was associated with an increased risk for hospitalization.

CONCLUSIONS: URS for urinary stones is safe in patients taking oral AC or AP therapy. This information serves to improve patient counseling and surgical decision-making on the risks associated with URS.

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