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## **Title: Predictors of Spontaneous Passage in Symptomatic Ureteric Stones: A single Single-Centre Retrospective Study**

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### **Objective**

To assess outcomes and identify predictors of spontaneous passage in patients admitted with symptomatic ureteric stones

### **Patients & Methods**

Patients admitted emergently between January 2022 and December 2023 with acute loin pain and non-contrast CT–confirmed symptomatic ureteric stones were retrospectively reviewed. Collected data included demographics, laboratory results, stone characteristics (Hounsfield unit, maximal diameter, location, hydronephrosis), stone-related complications (sepsis, acute kidney injury(AKI)), inpatient interventions, and definitive management. Among patients managed conservatively, stone-free status at follow-up and predictors of spontaneous stone passage were analyzed using multivariable logistic regression. Continuous variables are presented as median(IQR), categorical as count(%).

### **Results**

A total of 382 patients were included (median hospital stay 2 days IQR 2–3; median maximal stone length 5 mm IQR 4–8).

Hydronephrosis was seen in 66.5% and emphysematous pyelonephritis in 3.4%. 49(12.8%) patients required emergency intervention due to sepsis or AKI. 139(36.4%) patients were planned for early intervention due to pain/AKI. For the remaining 243(63.6%) patients, conservative management was adopted. Among them, 63.0% achieved spontaneous stone passage; 13.1% did not return for follow-up. The mean stone-free time was 59(56 - 61) days. 15(6.2%) patients have readmission due to pain or sepsis, and one of them required emergency intervention.

Multivariable logistic regression showed each 1 mm increase in stone size reduced odds of passage by 15.2%(OR 0.848; 95% CI 0.74–0.97;  $p=0.018$ ), and proximal stones were less likely to pass than distal(OR 0.353; 95% CI 0.15–0.81;  $p=0.014$ ).

### **Conclusion**

Most uncomplicated symptomatic ureteric stones can be managed conservatively, supporting individualized and conservative approaches for selected patients.