

## Prospective Evaluation of Silodosin for Ureteral Stone Management in Basra: Expulsion Rates and Pain

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### ABSTRACT

To find out if silodosin is a safe and effective Medical Expulsive Therapy (MET) for distal ureteral stones in Basra's urology practice. The Urology Department of Basra Teaching Hospital in Iraq conducted this prospective cohort study from May 2022 to April 2023, enrolling 137 patients with solitary distal ureteral stones that were less than 10 mm in diameter. The study excluded patients with multiple stones, severe renal impairment, previous interventions, or contraindications to alpha-blockers. Participants were given Silodosin (8 mg daily) and were monitored weekly over three weeks to assess stone expulsion as well as symptom improvement. Data collected included demographic characteristics, stone characteristics, pain scores, and adverse effects. Kaplan-Meier and log-rank tests analysis were used to estimate stone expulsion rates to examine for subgroup differences. Of the 137 participants (115 males, and 22 females with an average age of 36 years), Silodosin led to an overall stone expulsion rate of 77% within three weeks. Stone size was a significant predictor of expulsion; stones <7 mm were more likely to pass spontaneously ( $p < 0.05$ ). Male and female patients did not significantly differ in expulsion rate ( $p > 0.05$ ). Pain scores and analgesic requirements were lower in patients whose stone expulsion was successful. Commonly reported adverse effects were retrograde ejaculation and mild dizziness. However, both of these side effects were well tolerated. Silodosin had high efficacy and a relatively good safety profile as MET for distal ureteral stones of  $\leq 10$  mm. Higher success rates in stones <7 mm were observed. This study recommends Silodosin as a primary therapy for stones smaller than 7 mm in diameter, to reduce the need for invasive interventions. Future research with larger samples and longer follow-up is recommended to further validate these findings.

**Keywords:** Silodosin, Medical Expulsive Therapy, Ureteral stones, Stone expulsion, Alpha-blocker, Urology

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