

## PP-101

### Time to stone clearance for ureteral stones treated with extracorporeal shock wave lithotripsy

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**Objective:** To evaluate the time to stone-free status after shock wave lithotripsy (SWL) for ureteral stones.

**Methods:** Medical records of 387 patients with ureteral stones who have been treated were retrospectively reviewed. Exclusion criteria for this analysis included nonopaque stones, prior ureteric surgery, multiple ureteral stones, anomalous kidneys or ureters, hydronephrosis, infravesical obstruction, nonfunctioning kidney, inadequate follow-up, and treatment with calcium-channel blockers and alpha blockers. Ninety or 120 shocks per minute at suggested maximum energy for safety were applied. Patients were revisited periodically and stone-free status was accepted as success. The data were analyzed according to stone localizations: size (5-10 mm [group 1], 11-15 mm [group 2], and  $\geq 16$  mm [group 3]); and number of SWL sessions.

**Results:** The initial stone locations were: upper ureter in 23%, middle ureter in 17.9%, and distal ureter in 59% of the patients. The average stone diameter was 10.1 mm (range, 5-23). The SWL sessions varied between 1 and 4 (mean 1.3). Of the 117 patients 109 (93.1%) were stone free 20 days after the first session of SWL. The mean time to achieve stone-free status was 4.6 days. Group 1 had the quickest stone clearance time as expected (mean, 2.2 days [range, 1-3]). Groups 2 and 3 had longer times at 7.7 days (range, 3-18) and 12.2 days (range, 11-37), respectively.

**Conclusions:** SWL appears as a quick and effective treatment modality for ureteral stones. However, high-burden ureteral stones (16 mm) have considerably long periods of clearance and therefore appear to be unsuitable for SWL treatment.