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Shock wave lithotripsy for lower pole stones: A good first line choice

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Introduction: Use of extracorporeal lithotripsy is declining in North America and many European countries. Traditionally, shock wave lithotripsy is thought to have poor efficacy at treating lower pole stones. We evaluated the success rates of lithotripsy for lower pole renal stones in our unit.

Methods: 50 patients with lower pole kidney stones measuring <15mm treated between 3/5/11 and 19/4/12 were included in the study. Patients received lithotripsy on a fixed-site Storz Modulith SLX F2 lithotripter according to a standard protocol. Clinical success was defined as stone-free status or asymptomatic clinically insignificant residual fragments (CIRFs) <3mm at follow up.

Results: The mean stone size was 7.8mm. The majority of stones were between 5 and 10mm (66%). 28% of stones were between 10 and 15mm. For solitary lower pole stones complete stone clearance was achieved in 67% and clearance with CIRFs in 81% of patients. As expected, for those with multiple lower pole stones the success rates were lower: complete clearance was observed in 39% and clearance with CIRFs in 56%. The rate of complete clearance and CIRFs for the larger group of 10-15mm stones (71%) was comparable to rate seen in the 5- <10mm stone group (73%) and the <5mm stones (67%). Overall, complete stone clearance was observed in 54% of patients and clearance with CIRFs was achieved in 72% of patients. Success rate could not be attributed to age, stone size or gender.

Conclusions: Our outcome data for the treatment of lower pole renal stones (<15mm) compares favourably with the literature. With these levels of success, a non-invasive, outpatient-based treatment like lithotripsy is a good first-line treatment option for lower pole stones.

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