

**PP02****Inhomogeneity of kidney calculi do not predict SWL success**

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Introduction: The infrastructure of kidney calculi determined by pre-treatment CT-imaging has been suggested as an expression of stone fragility and thereby a predictor for a successful outcome of shockwave lithotripsy (SWL). The objective was to evaluate in vivo outcome of SWL in patients with inhomogeneous kidney calculi versus homogeneous stones.

Materials-Methods: 257 patients were included. Data were collected by systematic review of the patient's medical journals and imaging studies. The kidney calculi were categorized from non-contrast CT scans made before the treatment. We evaluated infrastructure of the stones on bone window of the CT-scan using magnification. Stone size was mean 47 mm² [6 - 329mm²]. Male/female ratio was 54.3/45.7%. Imaging follow-up was performed after 3 months and the number of retreatments was registered. The criteria of success were if the patient were stone free or had fragments less than 4 mm and no symptoms at the three-month evaluation.

Results: At three months follow-up 48 ± 5 % of the patients with inhomogeneous stones were stone free and 66 ± 5 % of the patients obtained the criteria of success. Patients with homogeneous stones had a significantly higher rate of success. 61 ± 4 % were stone free and 81 ± 3% obtained the criteria of success at three months (p<0,05). The patients with inhomogeneous had a higher fraction of residuals larger than 4 mm compared to the patients with homogeneous stones, 35 ± 5% vs. 19 ± 3%, RD= 14 % [95% CI: 3-25%], p<0,05. Patients with inhomogeneous stones required the same amount of retreatments as patients with homogenous stones.

Conclusion: Inhomogeneity of kidney stones as determined on the CT bone window does not seem to predict SWL success in vivo. On the contrary the homogeneous stones had a higher SWL success rate.