The Relationship between Renal Stone Excursion Distance and Body Build during ESWL

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Aim:
To study the relationship between body build and renal stone excursion distance during ESWL.

Patients and Methods:
88 consecutive patients with different urinary stones underwent ESWL from Oct 2010 to Feb 2011. Patients with ureteric stone, incomplete data, double-J stent and PCN in-situ were excluded. Stone characteristics including burden, position and excursion at deep inspiration and expiration were recorded. Patient factors including body height, body weight, body mass index and waist circumference were measured. Stone and patient data collected were analyzed.

Results:
The correlation between stone excursion with BMI, body height, body weight, and waist circumference was analyzed by Pearson correlation test. During ESWL for renal stones, there was significant distance of excursion of renal stone (mean 20mm ± SD 11mm). The stone excursion distance was not affected by the body height, body weight, body mass index and waist circumference.

Conclusion:
BMI, body height, body build and waist circumference do not affect the renal stone excursion distance and theoretically these factors should not affect the stone clearance rates. More studies are needed to study the determining factors of stone excursion distance and to determine the relationship of stone excursion distance with stone clearance rates. These will be studied in the second phase of this study.