

THE USEFULNESS OF PNEUMATIC LITHOTRIpsy (VİBROLİTH) FOR THE ENDOUROLOGICAL PROCEDURES

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INTRODUCTION: Most of the urinary calculi that extracorporeal shock wave lithotripsy (ESWL) has been failed or contraindicated are treated with endourological procedures. Electrohydraulic, laser, ultrasonic or pneumatic devices are used for in situ stone fragmentation during the percutaneous nephrolithotripsy (PCNL), ureteroscopic lithotripsy (URS) or cystolithotripsy procedures. The aim of this study is to evaluate the efficacy of pneumatic lithotripsy in the different parts of the urinary tract.

PATIENTS and METHODS: The records of 101 patients who treated by endourological procedures were reviewed retrospectively. 51 URS were performed in 47 patients (bilateral for three patients and two sessions for one), 23 PCNL in 21 patients (bilateral for two patients), 17 cystolithotripsy in 17 patients and 16 open surgery for coralyphorm stones. Pneumatic lithotripsy device (Vibrolith™, Elmed, Turkey) was used in all procedures. 8 F semirigid ureteroscope, 22 F cystoscope, 26 F nephroscope and respectively following probes in diameter 1.2 mm, 1.5 mm, 2 mm were used during the operations.

RESULTS: The fragmentation and clearance of all reached calculi was considered as a success. 44 of 47 patient in URS group have become stone-free (%93.6). Open ureterolithotomy was performed in a patient that URS had been failed due to previous ureterolithotomy. Two patients who could not treated successfully by URS managed by ESWL and both become stone free. All targeted stones fragmented by pneumatic lithotripter during PCNL procedure (%100). Our stone-free rate for PCNL was %75 due to the unreached stones or incomplete procedure because of the bleeding. ESWL was added for these patients and 94% of them become stone-free 3 months later. 15 patients with bladder stone, 2 patients with posterior urethral stone and 16 stones during open surgery of coralyphorm stones were successfully fragmented (%100). The records of 48 patients' stone analysis were reached. 16 calcium oxalate, 12 mix type, 11 magnesium ammonium phosphate, 2 uric acid and 1 Sistine stone were detected. No complication was noted during the operations.

DISCUSSION: Pneumatic lithotripsy (PL) is an effective, safe, easily applicable and cost-effective procedure for PCNL, URS, cystolithotripsy and open surgery for corali phorm stones. PL can achieve successful fragmentation in all stone composition.