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THE SUCCESS OF EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY IN THE TREATMENT OF UPPER AND LOWER URETERAL CALCULI

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Objective We compared the efficacy of extracorporeal shock-wave lithotripsy in the treatment of upper and lower ureteral stones.

Material and Methods Between January 1999 and March 2001, 147 patients with upper ureteral stones and 89 patients with lower ureteral patients had undergone ESWL with **Multimed 9200** electrohydraulic lithotripter. Mean stone burden was $0.89 + 0.47 \text{ cm}^2$ in upper ureteral stone group and $0.92 + 0.69 \text{ cm}^2$ in lower ureteral stone group. Mean number of shock wave hits and mean kVs are 5755 hits. $15.6 + 1.4 \text{ kV}$ and 5645 hits. $15.9 + 1.3 \text{ kV}$ for upper and lower ureteral stones respectively. None of the patients needed nor anesthesia neither sedation. Parenteral analgesics are used in all patients before the procedure.

Result After a minimum follow up period of 3 months. 138 (94 %) of the patients with upper ureteral stones and 81 (91 %) of the patients with lower ureteral stones were stone free. In 7 of 147 (5 %) patients in the upper ureteral stone group ESWL treatment was unsuccessful and the stones of these patients were removed surgically without complication. In lower ureteral stone group the rate of ESWL failure was 8 % (7/89) and the stones of these patients removed ureteroscopically. However this difference in success rates of ESWL between two groups was statistically insignificant.

Conclusion ESWL is a safe non-invasive and efficient treatment in both upper and lower ureteric calculus up to 1 cm in diameter and should be considered as first line of treatment in these patients.