Evaluation of the success rate of ESWL in patients with urinary stones admitting to ardebil sepehr salamat clinic in 2017

Background and objective: Urinary stones (kidney stones, ureter, bladder, and urethra) are one of the most common and earliest known human diseases. The prevalence of kidney stones is estimated to be around 1-15% throughout life, which varies according to age, gender, race, and geographical location. The prevalence of stones in men is 2-3 times higher than in women. Extra Corporeal Shock Wave Lithotripsy (ESWL) is known as the most common method for treating urinary stones (70%) and selective treatment of small urinary stones (7 to 25 mm).

Methods: This interventional comparative study was carried out with easy sampling (up to 200 persons) reaching the required roof. Patients with urinary stones with a diameter of 6-30 mm were candidates for ultrasound scaling. After obtaining written consent, They entered the study. Patients with coagulation disorders, urinary or other organ transplantation, pregnant women, uncontrolled blood pressure patients, and those who are contraindicated for drug use have been excluded. The process was carried out by an operator and by the Dornier Compact Delta II smashing machine. Two weeks later, the patients were re-visited and ultrasound were performed and the success rate of stone mass was measured and recorded. Complete cleansing of the urinary system or the remaining 4 mm stone is considered as a complete success, and the presence of a stone larger than 4 mm and smaller than the original stone as a relative success, and failure to break the stone is considered as a failure.

Results: In stones below 10 mm, the stones in the upper calyx were 100% successful in treatment, while 66% of the medial calyx stones were complete. 92% of the lower calyx stones were fully treated and 78% of the primary ureteral stones were fully treated and 82% of the stones were fully treated in the pelvic floor and 85% of the UPJ rocks were complete. The difference was statistically significant ($P < 0.001$). In the case of stones over 10 mm, the upper calyx stones were 100% complete with complete treatment. In the case of mid- calyx stones, 66% of the stones were complete and in the lower calyx area, 60% of the stones were fully treated and 68% complete in the primary ureteral stones, 72% of the pelvic gastric ulcers and UPJ rocks were treated thoroughly. The difference between the success rate of outbreak treatment in rocks over 10 mm based on the rock formation site was statistically significant ($P < 0.008$).

Conclusion: The results of the data analysis showed that extracorporeal lithotripsy procedure in patients with urinary system stones is very desirable and convenient and the success rate is at acceptable level.

Keywords: Urinary tract stones, ESWL, Extracorporeal Lithotrip