



## The English summary of the master thesis

### First Year Experience In Extra Corporeal Shock Wave Lithotripsy In Suez Canal University Hospital

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### Summary and Conclusion

Lithotripsy is been one of the most new medical technology revolutionized medical practice. Initially the indication of ESWL was limited to a single stone >10mm. The successful treatment at that time has produced rapid technical advances in machine design. These technical advances, gaining experience and approval of the safety of the procedure, extends the range of indication to include most off uirinary stones. Therefore, extensive experiment and clinical studies were done since the early use of ESWL and up till now to evaluate its beneficial effects versus its morbidity to identify the possible factors which may influence the severity and consequence the tissue damage induced by ESWL. These studies still have been inconclusive in their reliability to confirm or deny the overall safe of ESWL.

During the period from September 1995 to September 1996, 147 patients with kidney and ureteral stones were treated by ESWL using Siemens Lithostar 2 plus machine. The age of patient range from 7 & 72 year with an average 39.8 year. There were 88 males (59.8%) and 59 females (40.2%). There were

unilateral stones in 140 patients (98.2%) and bilateral stones in 7 patients (1.8%) so the total number of uretero-renal unit was treated was 154 unit.



Right-sided stones were found in 83 uretero-renal unit (58.8%) and left sided in 71 uretero-renal unit (46.2%).

One Hundred Eighteen patients had kidney stones (77.5%), 27 of them had multiple kidney stones while 36 patients (22.5%) had ureteral stones. 9 patients had radiolucent stone while the other had radiopaque stones.

The stone burden ranged between 7mm to 55mm with an average of 14 mm.

All patients were subjected to the routine pre ESWL work up as

- Careful History And physical examination
- laboratory investigation
- Radiological investigation

During the procedure, the patients received I.V. fluid and sedation except 7 cases, one patient under went ESWL under general anaesthesia as she is child while the other 6 cases receive either spinal or epidural anaesthesia as they underwent pre ESWL-auxiliary procedure. Localization of stone was done by fluoroscopy in 149 patients and by ultrasound in 5 patients (3,3%).

The number of shock wave per session ranged between 1640- 5200 with an average of 3483, The level of power ranged between 2,4 - 5,6 with an average of 3,6 of the time of session ranged between 26-68 min. with an average 37,8 min. our re-treatment rate was 1,5.

We follow up the patients by clinical evaluation, laboratory studies as CBC and serum creatinine and radiological studies in the form of KUB and abdomino pelvic ultrasonography with close follow up for patients whom develop steinstrasse. There were 40 patients did not complete the follow up work and they were excluded from the result.

Post ESWL auxiliary procedure were performed to treat complication as PCN in one patient, ureteric catheter in 2 patient, ureterscope in 2 patients all patients had hematuria less than 24h and resolved spontaneously and also most of them develop colic and responded well to pain killer.

All patients had hematuria less than 24h and resolved spontaneously and also most of them develop colic and responded well to pain killer. No one developed hematuria more than 24 h. While 25 cases develop steinstrasse and 2 patients develop fever more than 40



At the end of follow up protocol the success rate, stone free-rate and re-treatment rate for kidney calculi was 93/6%, 71.5% and 1.6 respectively while for ureteral calculi was 100%, 94,7% and 1.1 respectively.

These result are in agreement with the most published data concerned the success of the treatment namely stone free rate, complication rate.

So we conclude that the best result was achieved for stones less than 20mm and also for stones present in the pelvis of the kidney and upper ureter while it is less in lower calyx stone and multiple stones in the kidney, while the rate of complication increase by increasing the size of stone.