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Success rate and financial impact of Extracorporeal Shock Wave Lithotripsy (ESWL) for acutely admitted ureteric stone patients

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Introduction: Role of ESWL is increasingly recognised in managing ureteric stones. In acute ureteric stone management, ureteroscopic laser fragmentation is commonly the preferred modality; however, ESWL is an alternative treatment in this setting. With stone free rate (SFR) of 80%, minimal invasiveness and low morbidity the outcome is comparable to ureteroscopy.

We aimed to determine the SFR of acutely admitted patients with ureteric stones who were treated with ESWL and analysed financial cost in managing these patients.

Methodology: We included patients treated on an emergency basis for ureteric stones from 1/1/2008 to 31/5/2012. Data was collected from prospectively maintained database and findings were confirmed by reviewing case notes and radiological imaging.

Cost comparison was made by nationally agreed tariffs.

Inclusion criteria:

- Primary ureteric stone treated with ESWL
- Secondary ureteric stones (stone fragments in ureter after ESWL for renal stone)

Exclusion criteria:

- Patients lost to follow-up
- Patients with known ureteric stricture and stones overlying bone.

Results: In total 66 (55 males and 10 females with one bilateral) stones were treated with ESWL median (range) of age, size and pain score (scale 1-10) was 49.4 yrs (20.3 – 96.4), 8mm (4 – 16) and 1 (1-5). Stone free rates were 86% (48/56) and 60% (6/10) for proximal and distal ureter, respectively. Median shock wave requirement was 4000 (900 – 17908) and 83.3% patients cleared stone within 2 sessions. Ancillary procedures (ureteroscopy or nephrostomy) were required in 12 patients who failed ESWL.

NHS cost for ESWL is £586 while for ureteroscopic stone removal costs £1205. In practice ESWL is more cost effective because of reduced requirements of consumables, hospital stay and no need for anaesthesia.

Conclusions: ESWL can be utilized in acute settings with high success rate and it seems to be more cost saving modality for hospitals and patients.

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