

Outcome of Semirigid Ureteroscopy in Sudan Urology Centers 2019-2022

Hegazi A1, Elhassan A1, Hamid K1, Elgasim A1, Ibrahim A2, Tageldin A1, Greeballah A1, Ibnouf A1
1. Sudan Medical Specialization Board, 2. University of Khartoum

ABSTRACT

Semi-rigid ureteroscopy with the aid of Holmium:Yttrium Aluminium Garnet (YAG) laser lithotripsy is an established technique for the management of ureteric stones. In this study, we evaluated the outcomes of this procedure in Ibsina Specialized Hospital between 2019 and 2022. The aim of this retrospective analysis is to report the success rate, complications, and stone characteristics of patients who underwent semi-rigid ureteroscopy with the aid of Holmium:YAG for the management of ureteric stones

METHODS

We conducted a retrospective comparative analysis of 1223 patients (764 males 62.5%, 454 females 37.5%) who underwent semi-rigid ureteroscopy with the aid of Holmium:YAG laser lithotripsy for ureteric stones in Ibsina Specialized Hospital between 2019 and 2022. We analyzed the success rate, complications, and stone characteristics of the patients.

RESULTS

Our study showed that of the 1223 stones, 1115 (91.2%) were successfully cleared after a single procedure, while 108 (8.8%) patients required a second session for incomplete stone clearance. Thirty-four patients (2.8%) experienced stone migration, and in 17 (1.4%) patients, the ureter was difficult to access. The most common minor complications were mucosal injury (13.7%) and false passage (6.3%), which did not interrupt surgery or stone fragmentation. There were no major complications of avulsion, but six (0.5%) patients had ureteric perforation. Of the 1223 stones, 227 (18.6%) were in the renal pelvis, 194 (15.9%) were in the upper ureter, 210 (17.2%) were in the mid ureter, and 592 (48.4%) were in the lower ureter. The majority of stones (97.1%) were single stones, with a mean stone size of 1.7 cm (range 1.2-5 cm). The mean operation time was 24.7 minutes (range 10-55 minutes).

CONCLUSIONS

Our study showed that semi-rigid ureteroscopy with the aid of Holmium:YAG laser lithotripsy is an effective and safe technique for the management of ureteric stones in Ibsina Specialized Hospital. The high success rate of the procedure and the low rate of major complications, despite the relatively large number of patients and the varying locations and sizes of the stones, indicate the efficacy of this technique. However, the relatively high rate of minor complications, particularly mucosal injury and false passage, highlights the importance of meticulous technique and patient selection. Further studies are needed to identify factors that may affect the outcomes of this procedure and optimize patient selection for this technique.

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