

Intraoperative Complications after 8150 Semirigid Ureteroscopies for Ureteral Lithiasis: Risk Analysis and Management

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Abstract

Objectives: To evaluate semirigid retrograde ureteroscopy complications on a significant series of patients and to establish the factors associated with the occurrence of intraoperative complications.

Patients and Methods: Between June 1994 and June 2013, 8150 semirigid ureteroscopic procedures for ureteral lithiasis were performed in 7456 patients. We used semirigid ureteroscopes (8/9.8F Wolf, 8 and 10F Storz, Olympus Endoeye digital 8.5/9.9 F). Lithotripsy was done with pneumatic, electrohydraulic or Ho:YAG laser lithotripters. The preoperative parameters including gender, calculi location and size, impaction, degree of hydronephrosis, stone number and associated malformation as well as intraoperative aspects (stone extractors, fragmentation devices, operative time and surgeon experience) were evaluated in relation with complications' rate.

Results: The stone-free rate after a single ureteroscopic procedure was 90.9%. Intraoperative incidents occurred in 348 cases (4.3%). The overall rate of intraoperative complications was 2.8% (228 cases). These were represented by lesions of the ureteral mucosa (139 cases), perforation (58 cases), bleeding (16 cases), ureteral avulsion (3 cases) and extra-ureteral stone migration (12 cases). Statistical analysis shows a significant association between the complication rate on the one hand and stone size, location and impaction, operative time and surgeon experience on the other hand.

Conclusions: Due to technological advances and increased experience, the semirigid retrograde ureteroscopic treatment of ureteral lithiasis increased efficacy, while the incidence of intraoperative complications decreased. Most of these complications are minor and can be managed by conservative approach.

Key words: retrograde semirigid ureteroscopy, ureteral lithiasis, complications, risk factors, management

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