

Editorial referring to the papers: Alkan E, Turan M, Ozkanli O. Combined ureterorenoscopy for ureteral and renal calculi is not associated with adverse outcomes. Cent European J Urol. 2015; 68: 187-192, and: Drake T, Ali A, Somani BK. Feasibility and safety of bilateral same-session flexible ureteroscopy (FURS) for renal and ureteral stone disease. Cent European J Urol. 2015; 68: 193-196.

More aggressive intrarenal endoscopic maneuvers are assuring a stone free outcome and safety

Artur A. Antoniewicz

Department of Urology, Multidisciplinary Hospital Warsaw–Międzylesie, Poland

Citation: Antoniewicz AA. More aggressive intrarenal endoscopic maneuvers are assuring a stone free outcome and safety. Cent European J Urol. 2015; 68: 197-198.

The papers by Alkan et al. [1] and by Drake et al. [2] represent the novel trend in endourology with the expansive use of flexible scopes. The flexible scopes with recent equipment advances, especially Holmium lasers, lead to great development of the RIRS technique (retrograde intrarenal surgery). RIRS combines the minimally invasive procedures of transurethral endoscopic treatment of urinary tract diseases, e.g. kidney and ureteric stones, tumors of the upper urinary tract, strictures as well as other abnormalities of the upper urinary tract [3]. Moreover, one uses the term RIRS when considering non-standardized techniques applied in patients with urinary diversions or in a post-transplant cohort [4]. Both papers are dealing with advanced endourological methods, in which flexible ureterorenoscopes are used in the treatment of kidney stones. Authors documented high efficacy of the minimally invasive methods in both, bilateral disease [2], and multifocal uretero-renal stones [1] (92.8% and 88.9% stone free rate, respectively). In both papers, the number of patients treated with

the RIRS procedure is limited (42 and 45, respectively), however, the conclusion is clear – both presented that the strategies are feasible, effective and safe. Interestingly, the authors provided different stone free rates (SFR): <4 mm [1] and <2 mm [2], respectively. A simple classification of SFR was provided by Somani et al., as presented in table 1 [5]. However different authors [6] report substantial variations in the described stone-free rates (SFR) following flexible URS. The issue of special importance is the configuration of the calico-pelvic systems and grade of dilatation or hydronephrosis in patients qualified for RIRS, which may affect the success of the technique [7], while no comments on this are available in the papers. Furthermore, the concomitant pre-/post-operative infections of the urinary tract were not discussed thoroughly by the authors, which according to the literatures occur relatively uncommonly in <2.2% of cases [8], as for individuals undergoing ureterorenoscopic stone removal. However, the infection may cause serious clinical scenarios even though post-URS symptomatic UTI was 0% in a study by Knopf et al. [9]. In the paper by Drake et al. [2] this aspect was omitted, while Alkan et al. [1] described the frequency of 1/45 UTI cases with fever. As a prophylaxis, in the paper by Drake et al. [2] gentamycin was used, which is not a routine antibiotic (trimethoprim + sulphamethoxazole, cephalosporine group 2 or 3, aminopenicillin or fluoroquinolones as stated in EAU Guidelines on Urological infections 2015) [11]. The aspect of pre-stenting would also be debatable, since some authors [10] argue about the additional benefit of this technique for intraoperative ureteric injury and distal ureteric stricture prevention. The procedure of ureteral and ipsilateral small simultaneous calyceal stones removal increased the use of ureteral stent [1], while in the paper by Drake et al. the access

Table 1. SFR according to Somani et al. [5]. The suffix U (USS, ultrasound), C (CT, computed tomography), or X (X-ray) determines the method used for the evaluation of urolithiasis existence

SFR level	Size of stone detected	Evaluation modality	SFR
0	No stones	USS, CT, XR	0U, 0C or 0X
1	≤ 1 mm		1U, 1C or 1X
2	≤ 2 mm		2U, 2C or 2X
3	≤ 3 mm		3U, 3C or 3X
4	≤ 4 mm		4U, 4C or 4X

SFR – stone free rate

sheath was used in 2/3 of the cases and a stent was left in all cases [2]. Surprisingly, in the paper by Drake et al. only 14% (3/21) of the patient's had the procedure of pre-stenting introduced [2].

In summary, RIRS is a milestone, when considering the progress in endourology, and its potential is well documented in these two valuable publications.

References

1. Alkan E, Turan M, Ozkanli O. Combined ureterorenoscopy for ureteral and renal calculi is not associated with adverse outcomes. *Centr European J Urol.* 2015; 68: 187-192.
2. Drake T, Ali A, Somani B. Feasibility and safety of bilateral same-session flexible ureteroscopy (FURS) for renal and ureteral stone disease. *Centr European J Urol.* 2015; 68: 193-196.
3. Zheng C, Xiong B, Wang H, et al. Retrograde intrarenal surgery versus percutaneous nephrolithotomy for treatment of renal stones >2 cm: a meta-analysis. *Urol Int.* 2014; 93: 417-424.
4. Zilberman DE, Mor Y, Duvdevani M, Ramon J, Winkler HZ. Retrograde intrarenal surgery for stone extraction. *Scand J Urol Nephrol.* 2007; 41: 204-207.
5. Somani BK, Desai M, Traxer O, Lahme S. Stone-free rate (SFR): a new proposal for defining levels of SFR. *Urolithiasis.* 2013; 42: 95.
6. Ghani KR, Wolf JS. What is the stone-free rate following flexible ureteroscopy for kidney stones? *Nat Rev Urol.* 2015; 12: 281-288.
7. Kilicarslan H, Kaynak Y, Kordan Y, et al. Unfavorable anatomical factors influencing the success of retrograde intrarenal surgery for lower pole renal calculi. *Urol J.* 2015; 12: 2065-2068.
8. Martov A, Gravas S, Etemadian M, et al. Postoperative infection rates in patients with a negative baseline urine culture undergoing ureteroscopic stone removal: a matched case-control analysis on antibiotic prophylaxis from the CROES URS global study. *J Endourol.* 2015; 29: 171-180.
9. Knopf HJ, Graff HJ, Schulze H. Perioperative antibiotic prophylaxis in ureteroscopic stone removal. *Eur Urol.* 2003; 44: 115-118.
10. Mahajan PM, Padhye AS, Bhawe AA, Sovani YB, Kshirsagar YB, Bapat SS. Is stenting required before retrograde intrarenal surgery with access sheath. *Indian J Urol.* 2009; 25: 326-328.
11. Grabe M, Bartoletti R, Bjerkklund Johansen TE, et al. Guidelines on Urological Infections. *EAU.* 2015: 57-58. ■

Corresponding author

Artur A. Antoniewicz, M.D., Ph.D., FEBU
aaa@urologia.waw.pl