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Introduction & Objectives: Flexible ureterorenoscopy (fURS) could be presented as a second treatment option for stones larger than 2 cm with PNL being the first treatment option, and for lower pole stones larger than 1.5 cm where SWL activity was limited.

To determine if there is a difference between postoperative urinary infection rates after fURS, which UAS was used or was not used.

Materials & Methods: We retrospectively analysed the medical records of all patients who underwent RIRS at our institution between January 2016 and October 2018. The examined parameters included patient's demographic information, stone characteristics (size, volume, localization and Hounsfield unit), duration of operation, use of ureteral access sheath (UAS), postoperative sepsis and urinary tract infection.

Results: A total of 210 patients were reviewed. 129 patients who met the study criteria were included in the study. The mean age of the patients was 48.8 ± 12.1 years. 94 patients were male and 35 were female. The mean stone size (largest diameter), stone attenuation and stone volume were 15.3 ± 5.8 mm, 1038 ± 368 HU and $1098 \pm 1031\text{mm}^3$, respectively. Out of 129 patients, 81 were UAS-used patients (Group 1), 48 were UAS-unused patients (Group 2). The mean operative time was 60.2 ± 22.8 min. Patient, stone and operation characteristics are given in Table-1. Although statistically significance was not reached, the mean stone size and stone volume were found to be higher in Group 2 compared to Group 1 ($p = 0.341$ and $p = 0.261$, respectively). The mean HU of stones and mean operation time were found to be higher in Group 1 compared to Group 2 ($p: 0.149$ and $p: 0.332$, respectively). Lower pole stone localisation rate was significantly higher in Group 1 (62% versus 33%, $p: 0.002$). There was no statistically significant difference between the two groups in terms of post-operative infection ($p: 0,608$). However, the operative time of patients with post-operative infection was statistically higher than the other patients; 88.35 ± 22.5 min versus 59.37 ± 22.1 min ($p: 0.017$).

Table-1. Comparison of UAS-used and UAS-unused groups

Groups	Group-1	Group-2	p
Mean stone size(mm)	14.9±5.7	15.8±6	0,341
Stone volume (mm ³)	1022±1026	1226±1038	0,261
Stone attenuation (HU)	1067±383	988±340	0,149
Mean operative time(min.)	61,75±22,3	57,79±23,5	0,327

Stone localization	Lower pole:50(%62) Non-lower pole:31(%38)	Lower pole:16(%33) Non-lower pole:32(%67)	0,002
Post-operative infection	3(%2.7)	1(%2.1)	0,608

Conclusions: Although it is obvious that using the UAS during RIRS will reduce the intrarenal pressure, not using a manual pump and not prolonging the operation time too much may be useful to prevent postoperative infection.