P013 Comparative study of flexible ureteroscopy with single-use and reusable ureteroscope

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Introduction & Objectives: Improvement in endoscopic technologies has led to expansion of flexible ureteroscopy (fURS) indications in the treatment of renal and ureteral stones. Single-use flexible ureteroscopes were introduced in clinical practice in an effort to overcome some of the disadvantages of reusable ureteroscopes such as endoscope damage, cross contamination and repair costs. The objective of this study is to compare the efficacy and safety of fURS with single-use and reusable ureteroscope.

Materials & Methods: A prospectively collected database of 122 consecutive fURS procedures carried out between May 2017 and May 2019 was analyzed. 79 (64.8%) procedures were performed with reusable flexible ureterorenoscope (Olympus, Germany) and 43 (35.2%) – with single-use flexible ureterorenoscope (Uscope, Pusen™). Preoperative characteristics, efficacy and safety were compared between groups.

Results: Patients' preoperative characteristics were comparable between groups. Mean stone size was 13.3±3.3 mm for the single-use fURS Group and 14.3±4.8 mm for the reusable fURS Group, p=0.215. Ureteral access sheath was used in 97.7% in the single-use fURS Group and in 78.5% in the reusable fURS Group, p=0.004. Stone-free rate after single procedure was comparable between groups (86.0% vs 89.9%, p=0.526). Postoperative stent JJ was placed in 41.9% of the single-use fURS procedures and in 43.0% of the reusable fURS procedures (p=0.984). Postoperative complication rates didn't differ significantly between groups (16.3% vs 11.4%, p=0.445). Most common complication in the single-use fURS group was renal colic in 7 patients (16.3%). The rate of postoperative fever was higher in the reusable fURS Group (0% vs 7.6%; p=0.064).

Conclusions: The results of this study suggest that fURS performed with both single-use and reusable flexible ureteroscopes is effective and safe procedure for the treatment of renal stones. Although overall complication rates were similar, single-use fURS had the advantage of lower postoperative fever rate.