P017 Impact of preoperative ureteral stenting on the efficacy and safety of flexible ureteroscopy for renal stones

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Introduction & Objectives: Improvements in flexible ureteroscopes and laser technologies have extended the indications of flexible ureteroscopy (fURS) for renal stones. Preoperative stent JJ placement has been advocated to induce passive ureteral dilation, facilitating retrograde access into the kidney and spontaneous passage of stone fragments. The objective of this study is to assess the impact of preoperative ureteral stent JJ on the efficacy and safety of fURS for treatment of kidney stones.

Materials & Methods: Data on 157 consecutive fURS procedures performed between January 2017 and April 2019 were retrospectively reviewed. fURS was performed without preoperative stent JJ in 118 patients (75.2%) and with preoperative stent JJ in 39 patients (24.8%). Patients' preoperative characteristics, stone-free and complication rates were compared.

Results: Patients' preoperative characteristics were comparable between groups. Mean stone size was 14.3±5.4 mm for the no stent group and 13.5±4.2 mm for the pre-stented group (p=0.437). Patients with preoperative stent JJ were more likely to have preoperative urinary tract infection (5.9% vs 15.4%; p=0.063). Ureteral access sheath was used in 80.5% of the no stent group and in 94.5% of the pre-stented group (p=0.034). Failed access into the renal collecting system was observed in 2 patients (1.7%) in the no stent group (p=0.413) due to narrow ureter, which required stent placement and second-look procedure. Stone-free rate after single procedure was higher for the group with preoperative stent JJ, although not statistically significant (84.7% vs 92.3%, p=0.229). Postoperative stent was placed in 48.3% of the no stent group and in 33.3% of the pre-stented group (p=0.091). Overall complication rate was higher for the pre-stented group (7.6% vs 15.4%, p=0.153), with most common complications being postoperative fever and renal colic in both groups. Postoperative fever rate was significantly higher in the preoperative stent group (2.5% vs 10.3%, p=0.043).

Conclusions: The results of this study suggest that preoperative placement of stent JJ increases stone-free rates of fURS for renal stones. However, the risk of preoperative urinary tract infection and postoperative fever is higher.