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NEW DIGITAL SINGLE-USE FLEXIBLE URETEROSCOPE (PUSEN™): FIRST CLINICAL EXPERIENCE

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INTRODUCTION AND OBJECTIVES: We report the clinical results of flexible ureteroscopy using the new digital single-use flexible ureteroscope from PUSEN™(New South Wales, Australia). This device has an outer diameter of 9 Fr, with a working channel of 3,6 Fr. The deflection system has both options of standart and reverse modes with maximum deflection of 270° in both directions.

METHODS: Between August and October 2016 we performed flexible ureteroscopy (FUR) using the new device. The primary outcome was stone free rates, secondary outcomes were total time of the procedure, total time of fluoroscopy and perioperative complications. The tertiary outcome was the behavior of the instrument during and at the end of the procedure

RESULTS: A total of eleven FUR were performed. The present study included eight male patients and three female patients, with an average age of 39 years (range 23-65 years). All the patient were treated using a 12 Fr access sheath and holmium laser lithotripsy(260 µm fiber). The average stone size was 6 mm (range 4-10 mm), and stones were located as follow: 3 in proximal ureter, 6 in renal pelvis and 2 in lower calix. Total time taken to complete the surgery was 45 minutes (range 25-85 min). The number of stones treated per patient varied between 1 and 4. Mean fluoroscopy time was 50 seconds. We achieved 100% stone free rate in eight cases and 80% in the remaining three. One patient present an ureteral wall injury, with mucosal erosion at time of ureteral access sheath placement. A double J stent was placed in all patients. The device behaves properly during and at the end of the procedure, there was no loss in image quality or deflection capacity, being able to safely finish all the cases carried out.

CONCLUSIONS: With respect to outcomes evaluated in this study with the PUSEN™ digital single use flexible ureteroscope seems to be similar in comparison to reusable flexible ureteroscope. The clinical results achieved in the present study suggest that this device could be considered a valid method to treat endoscopically renal and proximal ureteral stones reducing maintenance costs.

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