

Initial Experience with the New Super Thin Single-use Pusen Flexible Ureteroscope 7.5 Fr in Renal Stones Endoscopic Treatment

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Abstract

Introduction: Single-use flexible ureteroscopes (SU-fURS) seems to overcome the main limitations of conventional reusable ureteroscopes in terms of acquisition and maintenance costs and breakages. Our aim was to analyze the efficiency and safety of the thinnest single use flexible scope from Pusen: Uscope Pusen, PU 3033A (Tip = 7.5 Fr.).

Material and methods: We analyzed data from 24 patients with pyelocaliceal stones from January to March 2021. The mean age of the patients was 49 years (range 27 to 71 years). There were unique stones, 7 pyelic, 10 in inferior calyx, 4 in the middle calyx and 3 in superior calyx. The average stone size (larger diameter) was 18 mm (12-26 mm). We used Uscope Pusen 7.5 Fr. (PU 3033A) and Dornier Medilas H Solvo laser. In all cases we applied no touch technique (NTT). We didn't used C-Arm for progression control of the ureteroscope. We evaluated the patients for stone-free rate (SFR), mean operation time and complication rate.

Results: The average operative time was 72 ± 21 minutes, range 66-131 min. For all 24 patients we didn't use wires or ureteral access sheath (NTT). Concerning the laser settings for dusting we used low energy: 0.5J, high frequency: 50 Hz, for pop-corning we used high energy: >1 J, medium frequency: 10-50 Hz, and for fragmenting high energy: >1 J, low frequency: <10 Hz. The stone-free status (residual fragments under 3 mm.) after one month was 91,7%. In 2 patients we need the second session with completely dusting of the residual stones. The visibility was optimal and we didn't describe any mucosal lesions of the ureter when we retired the scope. The intrarenal maneuverability was very good. Clavien I and II occurred in 6 patients.

Conclusions: This new SU-fURS (7.5 Fr.) seems to be very effective and safe offering us an easy NTT. No ureteral damage and one day surgery are the main real minimally invasive characteristics of this ureteroscope.

Key words: single use flexible ureteroscope, lithiasis, no touch technique