

Conclusions: RAP combined with renal stones endoscopic removal with stones basket is a safe and effective option for the simultaneous management of PUJS complicated by renal stones.

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Disposable versus reusable ureteroscopes: A prospective multicenter randomized comparison

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Introduction: To compare reusable and disposable flexible ureteroscopes in terms of efficacy and safety for patients undergoing RIRS, with specific reference to post-operative complications and infection rates.

Materials and methods: Patients with a renal stone eligible for RIRS were enrolled in this multicenter, randomized, clinical trial study. Patients were randomized into two groups: group A (90 patients) underwent RIRS with a reusable flexible ureteroscope and group B (90 patients) were treated with a disposable one.

Results: The patients' demographics, stones features and pre-operative urine cultures were comparable between the groups. The SFRs were not significantly different (86,6% and 90,0% for group A and group B respectively, $p=0.11$) and the mean cost for each procedure was comparable (2321 € in group A vs 2543 € in group B, $p=0.09$). However, the days of hospitalization and of antibiotic therapy were higher in group A ($p \leq 0.05$). The overall complication rate in group A was 8.8% whilst in group B it was 3.3% ($p \leq 0.05$); in particular, group A exhibited a greater number of major complications (Clavien score IIIa–V). The overall postoperative infections rate was 16.6% in group A and 3.3% in group B ($p \leq 0.05$). Furthermore, none of the patients in group B developed urosepsis or had a positive blood culture, while 3 patients in group A did ($p < 0.05$).

Conclusions: The use of disposable ureteroscopes is characterized by significantly lower post-operative complications and infection rates, while having comparable costs and SFRs vis à vis reusable ureteroscopes.

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Robot-assisted surgical management of ureteral strictures: technical aspects and preliminary outcomes in a single centre series

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Introduction: Surgical management of ureteral strictures may be challenging and several technical approaches can be used. We present our experience and preliminary outcomes in the treatment of ureteral strictures using a combined endoscopic and robot-assisted approach.

Materials and methods: Patients treated for a ureteral stricture with a robot-assisted approach from 2018 to 2020 were retrospectively reviewed. Either a ureteral stent or a nephrostomy tube was placed before surgery. All patients underwent preoperative contrast-enhanced CT scan, ureteroscopy and retrograde and/or antegrade ureteropyelography to identify the site and length of the stenosis. All procedures were performed in a lateral decubitus position with a transperitoneal approach using a DaVinci Xi robotic system with a 4-arm configuration. Four 8-mm robotic, an AirSeal and a 5- or 12-mm assistant trocars were placed. After induction of pneumoperitoneum the ureter was prepared. Flexible ureteroscopy was performed to identify the distal end of the stenosis with transillumination and a hydrophilic guidewire was left in place. ICG fluorescence with the Firefly tool was used to identify a healthy vascularized ureter above

and below the stenosis. After resection or incision of the stenotic tract, a flexible ureteroscope was used to investigate the upper urinary tract and treat urinary stones if needed. Stenosis <2 cm were treated with an end-to-end anastomosis or a Lich-Gregoir ureteral reimplantation according to the site of stenosis. Stenosis >2 cm were managed with incision of the stenosis and reconstruction with a buccal mucosal graft. A double-j stent was always placed.

Results: Thirteen patients were included. Median age was 54 years (IQR 44–59). Median length of the ureteral stenosis was 15 mm (IQR 13–16). The stenosis was in lumbar, iliac and pelvic ureter in 9, 2 and 2 cases, respectively. Twelve patients developed the stricture after an endoscopic procedure for urinary stones, 1 patient had ureteral endometriosis. Nine segmental ureteral resections with end-to-end anastomosis, 2 uretero-vesical reimplantations and 2 repairs with buccal mucosa grafts were performed. Median operative and console time were 225 and 160 minutes, respectively. Median length of stay was 6 days. The urethral and ureteral catheter were removed after a median of 5 days (IQR 4–9) and 36 days (IQR 33–38), respectively. No intraoperative complications occurred. Three patients experienced Clavien-Dindo grade 1 post-operative complications (2 wound infections and 1 persistent lumbar pain). With a median follow-up of 14 months, recurrence of the stenosis was observed in one case.

Conclusions: Robot-assisted reconstructive surgery for ureteral strictures is challenging. A combined endoscopic and robot-assisted approach and the choice of the best technique of repair based on the features of the stenosis provides good outcomes also for strictures >2 cm.

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Treatment of reno-ureteral stones in people with disabilities: 10 years of experience by the center for Disabled Advanced Medical Assistance (DAMA)

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Introduction: Disabled patients may be affected by an increased risk of urinary stones due to immobilization, recurrent urinary tract infections (UTIs), enteral nutrition via percutaneous endoscopic gastrostomy (PEG) etc. Because of frailty, these patients need a minimally invasive treatment, associated with high stone-free rate (SFR). Our study presents our experience with the treatment of urinary stones by our tertiary referral center for Disabled Advanced Medical Assistance (DAMA).

Materials and methods: We performed a retrospective analysis of our DAMA patients, who underwent surgery for reno-ureteral stones from January 2009 to October 2019 by a single high-volume center. Pre-op stone burden was estimated by computed tomography (CT). We used a 6/7.5 Fr semirigid ureteroscope, or a 9.5-Fr digital flexible ureteroscope with a 12/14-Fr ureteral sheath. Percutaneous nephrolithotomy (PCNL) was performed with a 20-Fr nephrostomy sheath and a 16-Fr nephroscope. Lithotripsy was performed with Holmium laser. Lapaxy was performed with a 2.4 Fr tipless nitinol basket. SFR was defined as the absence of >4 mm residual fragments with the CT performed a month after surgery. Post-operative complications were reported according to the Clavien-Dindo (CD) classification system. We collected and analyzed pre-, intra- and post-operative data.

Results: We considered 27 procedures in 19 patients (Table 1). The median age at surgery and BMI were, respectively, 50 years and 20 Kg/m². Considering stone location and dimensions, we performed: 10 (37%) semirigid ureteroscopy, 9 (33.3%) retrograde intra-renal surgery (RIRS), 8 (29.6%) PCNL. We registered post-operative complications in 19/27 cases: CD grade I-II 59.2%, CD grade III-IV 7.4% and CD grade V 3.7%. The latter involved a patient died for septic shock after RIRS. Post-op urine and/or blood cultures were positive in 17/27 cases. The SFR after the 1st and 2nd procedure was, respectively, 68.4% and 87.5%.