

Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you **"NU Rounds"** which contains latest and interesting news in the field of Urology.

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Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd

Clinical significance and risk factors of urethrovesical anastomotic urinary leakage following robot-assisted radical prostatectomy: a multi-institutional study

Introduction

Robot-assisted radical prostatectomy (RARP) has become the most utilized treatment modality for localized prostate cancer in the past two decades. The improved vision of pelvic anatomy and the dexterity of robot assisted surgical arms provided by RARP have allowed more precise and watertight urethrovesical anastomosis (UVA). A correlation between surgeon experience and quality of anastomosis has been reported, suggesting its utility as a benchmark of surgical skill for RARP. This, in turn, has naturally led many to suggest that the improved quality of anastomosis resulted in reducing the incidence of urethrovesical anastomotic urinary leakage (AUL) following RARP as an advantage over conventional open retropubic radical prostatectomy (RRP). A major factor contributing to this is that postoperative cystograms to detect AUL are not routinely taken at many centers around the world, leading to a significant variation in the definition of AUL, with some groups using findings of postoperative cystogram and others using confirmation of urine in the drain. Recognizing the factors associated with AUL is clinically important, since it may avert routine cystogram and provide beneficial information to surgeons for determination on patient selection regarding post-operative cystogram.

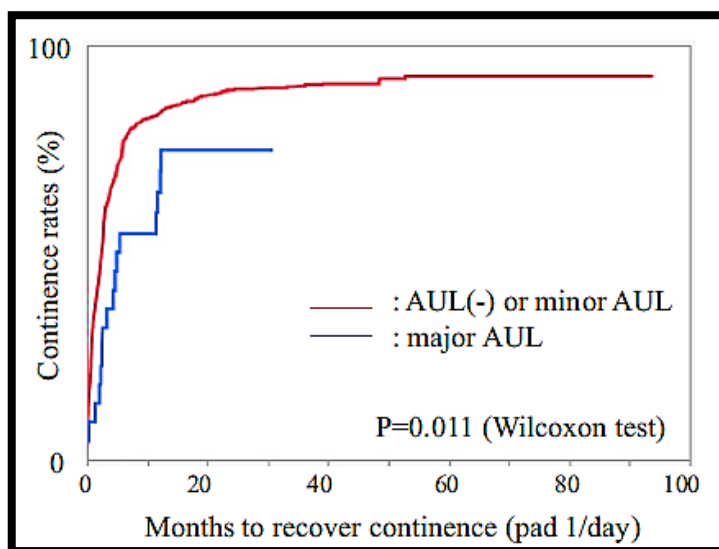
Aim: To analyze the clinical significance of AUL and evaluated its risk factors.

Methods: A multi-institutional study to review patients with prostate cancer undergoing RARP. “Positive AUL” was defined as urinary extravasation at the anastomosis detected by post-operative cystogram and was further categorized into minor or major AUL. Univariate and multivariate analyses were performed to identify predictors of AUL. Postoperative continence rates and time to achieve continence were also analyzed.

Results: A total of 942 patients underwent RARP for prostate cancer in 3 centers. Of these patients, a cystogram after the RARP procedure was not performed in 26 patients leaving 916

patients for the final analysis. AUL was observed in 56 patients (6.1%); 34 patients (3.7%) with minor AUL and 22 patients (2.4%) with major AUL. Patients with major AUL exhibited a significantly longer time to achieve continence than those without major AUL.

Months to recover continence in patients with or without major anastomotic urinary leakage.



Univariate and multivariate analysis to predict overall anastomotic urinary leakage (AUL)

Variable	Cutoff	Univariate		Multivariate	
		Odds ratio (95%CI)	P value	Odds ratio (95%CI)	P value
Age, years	≥ 68 versus < 68	0.89 (0.52–1.54)	0.78		
BMI, kg/m ²	≥ 25 versus < 25	2.02 (1.17–3.48)	0.01*	1.80 (1.03–3.12)	0.03*
iPSA, ng/mL	≥ 7.6 versus < 7.6	1.43 (0.82–2.48)	0.22		
Diabetes	With versus without	0.19 (0.04–0.80)	0.01*		
COPD	With versus without	0.45 (0.10–1.91)	0.42		
IHD	With versus without	1.55 (0.53–4.51)	0.34		
Abdominal surgery	With versus without	1.04 (0.56–1.92)	0.87		
Surgeon volume, cases	≥ 20 versus < 20	0.95 (0.55–1.66)	0.88		
	≥ 40 versus < 40	0.84 (0.48–1.49)	0.67		
	≥ 100 versus < 100	0.66 (0.27–1.57)	0.44		
Nerve sparing	With versus without	0.92 (0.52–1.64)	0.88		
Duration of console, min	≥ 184 versus < 184	2.00 (1.13–3.54)	0.01*	1.84 (1.03–3.28)	0.03*
Prostate weight, g	≥ 40 versus < 40	1.80 (0.99–3.27)	0.05	1.69 (0.93–3.09)	0.08
Blood, mL	≥ 230 versus < 230	1.26 (0.73–2.17)	0.41		
pGSS ≥ 8	≥ versus <	0.86 (0.46–1.58)	0.76		
pT3	≥ versus <	0.98 (0.54–1.77)	1.00		
PSM	With versus without	0.80 (0.39–1.62)	0.61		

Multivariate analysis demonstrated that longer console time (≥ 184 min) was significantly associated with overall AUL, and higher body mass index (≥ 25 g/kg²) was a significant predictor of both major and overall AUL.

Conclusions: Presence of major AUL was associated with the achievement of urinary continence, suggesting clinical relevance of its diagnosis by postoperative cystogram. A selective cystogram has been proposed for high-risk cases. Furthermore, identification of the risk factors of AUL will lead to optimal application.

Source: Kakutani S, et al. Clinical significance and risk factors of urethrovesical anastomotic urinary leakage following robot-assisted radical prostatectomy: a multi-institutional study. BMC Urol. 2021 May 3;21(1):75.

Retained calcified guidewire in the kidney mimicking a renal stone

Background:

In endourology, inadvertent laser injury of baskets or guidewires, or uncontrolled interaction between sharp inner lumen of a needle with guidewires and their coating is the most common cause of generation of retained foreign bodies. Majority of these retained surgical items are shortly noticeable after the intervention, either as prompt discovery or after development of acute symptoms or during the first postoperative follow-up. Retained renal foreign bodies can act as a reservoir for acute/chronic infection or stone formation or mimic a renal neoplasm; the diagnosis and the extraction can be demanding. Retained surgical items induce the same concerns of psychosocial and financial burdens on the patient, the involved medical staff and healthcare systems. Additional procedures for extraction of retained renal foreign bodies or correction of their consequences with related claims require extra financial resources.

Case:

A 60-year-old woman presented to the urology clinic with a 3-week history of right lumbar pain. Two months earlier, patient had undergone right flexible ureteroscopy for uric acid renal stones in another hospital. Urinalysis was notable for the persistent presence of leucocytes and bacteria, and a urine culture grew *Escherichia coli*. Non contrast-enhanced CT of the abdomen revealed a strange finding in the right kidney resembling a kind of calcified skein of thread.

Endoscopic view of the long calcified wire in the right kidney



A new endoscopic examination showed a long and tortuous piece of a guidewire completely calcified occupying the right renal pelvis and the lower calyx.

Coronal non-contrast-enhanced image through the abdomen demonstrates long calcified wire in the right renal pelvis and lower calyx (arrowhead)



The patient underwent, a endoscopic combined intrarenal surgery with complete removal of the wire and residual stone fragments with no postoperative complications. The stone and the calcification around the wire were sent for chemical analysis that confirmed uric acid composition. At 1-month follow-up, the patient was stone free and wire-free.

Key points

- Retained renal foreign bodies can act as a reservoir for acute/chronic infection or stone formation or mimic a renal neoplasm; the diagnosis and the extraction can be demanding
- The surgical aim in the management of retained foreign bodies is to remove them completely and, if possible, in a single stage. In complicated cases, multiple stages can be considered to avoid prolonged surgeries that might imply severe infective complications
- Frankness with patients when a foreign body is left unintentionally inside them is of utmost importance

Source: Proietti S, Rico L, Pavia MP, et al. BMJ Case Rep 2021;14:e242962.

Efficacy and safety of intravesical instillation of 50% dimethyl sulfoxide solution for interstitial cystitis/bladder pain syndrome: A multicenter, randomized, double blind, placebo-controlled, clinical study

Introduction

Interstitial cystitis/bladder pain syndrome is a chronic bladder condition characterized by bladder pain, frequency, and urgency in the absence of other well-defined pathologies. The etiology is not well understood, nor is there a widely accepted definition. Pharmacotherapy is very limited, and the drugs approved by the U.S. Food and Drug Administration for IC/BPS are confined to pentosan polysulfate sodium and a 50% w/w aqueous solution of DMSO solution. Despite intensive studies over the past decades, development of novel drugs has largely failed. Hunner lesion interstitial cystitis/bladder pain syndrome, the incidence of which is reportedly up to 57% among IC/BPS patients, has again begun to attract attention, and is categorized as a separate disease from non-Hunner IC/BPS. Therefore, the classification of either a bladder-centric phenotype of IC/BPS identified by Hunner lesions or hydrodistention-induced glomerulations, or an extra-bladder phenotype of IC/BPS that overlaps with other chronic pain conditions could lead to the development of phenotype-specific treatment methods for IC/BPS. The American Urological Association Guideline for IC/BPS recommends the intravesical instillation of DMSO as a second-line treatment. However, the European Association of Urology guidelines on chronic pelvic pain do not recommend its use because of insufficient evidence. Although many clinical trials have demonstrated the clinical benefits of 50% DMSO in the treatment of IC/ BPS, no well-controlled randomized placebo-controlled double-blind parallel comparison studies have been reported.

Aim: To evaluate the efficacy and safety of intravesical instillation of 50% DMSO solution in IC/BPS patients with the bladder-centric phenotype identified by cystoscopic examination and bladder pain relief after intravesical lidocaine instillation.

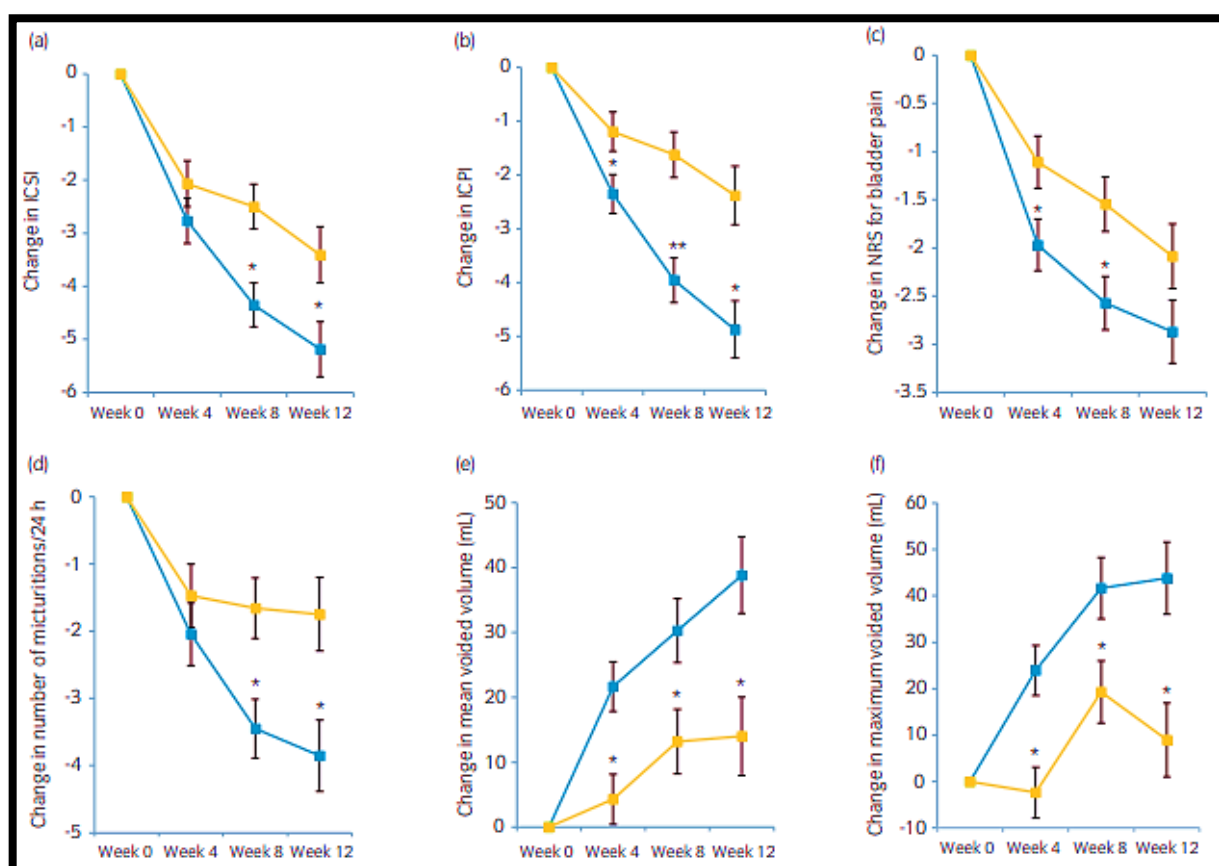
Methods:

Interstitial cystitis/bladder pain syndrome patients with an O'Leary-Sant Interstitial Cystitis Symptom Index score of ≥ 9 , who exhibited the bladder-centric phenotype of interstitial

cystitis/bladder pain syndrome diagnosed by cystoscopy and bladder-derived pain, were enrolled. Patients were allocated to receive either 50% DMSO solution (n = 49) or placebo (n = 47). The study drug was intravesically administered every 2 weeks for 12 weeks.

Results:

For the primary endpoint, the change in the mean O'Leary-Sant Interstitial Cystitis Symptom Index score from baseline to week 12 was -5.2 in the 50% DMSO solution group and -3.4 in the placebo group. The estimated difference between the 50% DMSO solution and placebo groups was -1.8 (95% confidence interval -3.3, -0.3; P = 0.0188).



LS mean change (standard error) in IC/BPS symptoms and voiding parameters from baseline at each visit in the KRP-116D and placebo groups with respect to: (a) ICSI; (b) ICPI; (c) NRS for bladder pain; (d) number of micturitions/24 h; (e) voided volume/micturition (mL); and (f) maximum voided volume/micturition (mL). The differences in the primary and secondary efficacy variables for the KRP-116D and placebo groups were calculated using a mixed model for repeated measures

Statistically significant improvements for 50% DMSO solution were also observed in the secondary endpoints including O'Leary-Sant Interstitial Cystitis Problem Index score, micturition episodes/24 h, voided volume/micturition, maximum voided volume/micturition, numerical rating scale score for bladder pain, and global response assessment score. The adverse drug reactions were mild to moderate, and manageable.

Conclusions: This first randomized, double-blind, placebo-controlled trial shows that 50% DMSO solution improves symptoms, voiding parameters, and global response assessment, compared with placebo, and has a well-tolerated safety profile in interstitial cystitis/ bladder pain syndrome patients with the bladder-centric phenotype.

Reference: Yoshimura N, et al. Efficacy and safety of intravesical instillation of KRP-116D (50% dimethyl sulfoxide solution) for interstitial cystitis/bladder pain syndrome in Japanese patients: A multicenter, randomized, double-blind, placebo-controlled, clinical study. Int J Urol. 2021 May;28(5):545-553.



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