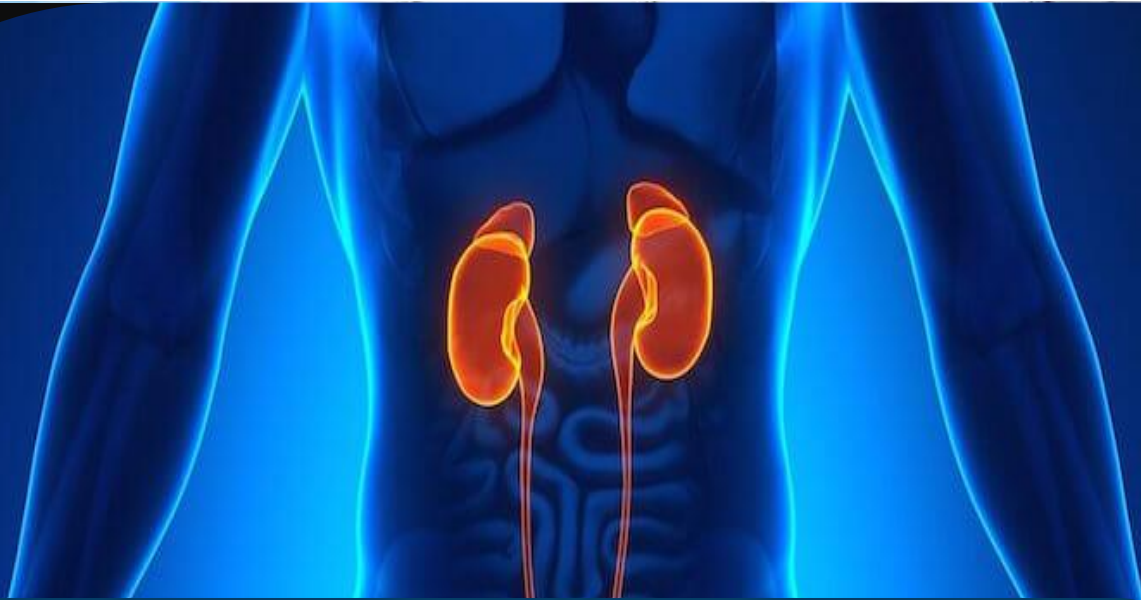




NU Rounds

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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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Should you require any specific article or medical information, please feel free to contact us at medicalsolutions@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd



Reduction of CKD Risk from Metabolic Syndrome Recovery

Individuals with metabolic syndrome (MetS) are at greater risk for chronic kidney disease (CKD), but there is a decreased chance for those who rebound from it, according to a study in *Kidney Science and Clinical Practice*.

In a nationwide population-based study in Korea, Sehoon Park, MD, of Seoul National University College of Medicine, and colleagues found that development of MetS was significantly associated with 26% increased odds of CKD in adjusted analyses. Although recovery from pre-existing MetS was substantially correlated with 16 per cent lower CKD chances relative to those with recurrent MetS. Increases in hypertension were correlated with the biggest variation in CKD risk among the MetS components.

The research, which used data from the National Health Care Database in Korea, included 4,537,869 people without MetS, 1,034,605 people with chronic MetS, 438,287 people who acquired MetS, and 304,540 people who healed from pre-existing MetS.

The writers reported that approximately 5 percent of individuals benefited from pre-existing MetS and a comparable portion of newly formed MetS in this national population-based sample involving more than 6 million people without underlying kidney dysfunction. Recovery from MetS was correlated substantially with a decreased incidence of accidental CKD. Conversely, those who acquired MetS have a greater chance of CKD than someone who did not acquire MetS.

Source:

Park S, Lee S, Kim Y, et al. Reduced risk for chronic kidney disease after recovery from metabolic syndrome: A nationwide population-based study [published online April 29, 2020]. *Kidney Res Clin Pract*. doi: 10.23876/j.krcp.20.016



Stereotactic Body Radiotherapy for Localized Low- and Intermediate-risk Prostate Cancer Using CyberKnife®

INTRODUCTION

One of the most prevalent cancers in the world, is prostate cancer. Nearly 74,000 people in Japan are freshly diagnosed with prostate cancer, and more than 12,000 patients died in 2017 from prostate cancer. Prostate cancer extreme diagnosis approaches involve surgery, or exterior beam or interstitial radiation therapy (RT). There is virtually no disparity between surgical procedure results and RT. RT, particularly external beam RT, therefore plays a significant role in the aging community as a non-invasive modality of care.

The normal (1.8-2 Gy / fraction) to intermediate hypofractionated (2.4-3 Gy / fraction) dose modulated radiation therapy is commonly utilized for conducting external beam RT. Such treatment can take a long time, however, and is a hardship on patients and professional establishments. Additionally, in certain forms of cancers the lengthy recovery period has a detrimental impact on the result of diagnosis. Therefore, it is important to develop a novel RT modality which achieves a drastic reduction in the total radiation period. The present study aimed to evaluate the toxicity and efficacy of stereotactic body radiotherapy (SBRT) for localized prostate cancer.

METHODS

This study is a part of a single-institution, prospective, phase I/II dose escalation study. Assessment was for the safety and efficacy of fiducial-based SBRT using CyberKnife for localized low or intermediate-risk prostate cancer. The primary endpoint was the occurrence rates of Grade 2 or higher late gastrointestinal (GI) and genitourinary (GU) adverse events at 2 years. The secondary endpoint was the 2-year biochemical relapse-free survival (bRFS) rate. Adverse effects were evaluated by the Common Terminology Criteria for Adverse Events ver.4.0. Biochemical relapse was defined by the Phoenix definition [prostate specific antigen (PSA) levels >2 ng/ml from the nadir]

RESULTS

The median age of patients was 70 years, four (16%) patients were low risk and 21 (84%) were intermediate risk. Seven (28%) patients received neoadjuvant androgen-deprivation therapy. The



median followup time was 53 months. Grade 2 acute and late genitourinary toxicities were observed in five (20%) and two (8%) patients and there were no Grade 2 gastrointestinal toxicities. There were no Grade 3 or higher acute or late toxicities at 2 years' follow-up. The biochemical relapse-free survival rate at 2 years was 100%.

Toxicities	N
Acute Grade 2 GU toxicities	
Dysuria	2 (8%)
Bacterial cystitis	1 (4%)
Pain in urination	1 (4%)
Urinary frequency	1 (4%)
Late Grade 2 GU toxicities	
Dysuria	1 (4%)
Urinary frequency	1 (4%)

GU: Genitourinary.

Summary of grade 2 or higher toxicities

Author, Year	Sample size (n)	Risk group (n)			Dose, fractionation	Median follow-up (month)	Grade 2 or higher late toxicities (%)		bNED rate (%)
		Low	Intermediate	High			GU	GI	
McBride, 2012	45	45	0	0	36.25-37.5 Gy/7 fr	44.5	19	11.9	97.7 (3y)
Katz, 2013	304	211	81	12	35-36.25 Gy/5 fr	72	9.8	4.5	94.3 (5y)
Ju, 2013	41	0	41	0	35-36.25/5 fr	21	44	7	97.6 (2y)
Zelevsky, 2019	136	45	96	0	32.5-40 Gy/5 fr	56	27.9	0	93.6 (5y)
Viani, 2019	254	84	93	77	74-78 Gy/37-39 fr	51	15.4	24	87.4 (5y)
Windmark, 2019	591	0	527	27	78 Gy/39 fr	60	17	10	84 (5y)
Present study	25	4	21	0	35 Gy/5 fr	53	8	0	100 (2y)

fr: Fractions; GU: genitourinary toxicities; GI: gastrointestinal toxicities; bNED: biologically no evidence of disease.

Comparison of SBRT and conventional fractionated RT

CONCLUSIONS

SBRT of 35 Gy in five fractions is an effective short-term therapy for medium- to intermediate-risk prostate cancer. This clinical study was started to evaluate SBRT's longer efficacy and protection and to establish the effects of SBRT utilizing a higher dosage (37.5 Gy or 40 Gy in five fractions). It is expected that an acceptable SBRT procedure for prostate cancer can be decided on the basis of subsequent results of this study.

REFERENCE

Nakamura R, Hirata T, Suzuki O, et al. Stereotactic Body Radiotherapy Using CyberKnife® for Localized Low- and Intermediate-risk Prostate Cancer: Initial Report on a Phase I/II Trial. *Anticancer Res.* 2020;40(4):2053-2057.



Transurethral Coagulation Vs Transurethral Resection of Hunner Lesion in Interstitial Cystitis/Bladder Pain Syndrome Patients

INTRODUCTION

Chronic cystitis / bladder pain syndrome (IC / BPS) is a medical disease marked by persistent pelvic pain, distress and/or irritation thought to be urinary bladder related. IC / BPS is classified into Type 1 (normal), Type 2 (no Hunner lesions [HLs] but glomerulations), and Type 3 (with HL) according to the cystoscopic findings. Usually HLs are circumscribed, reddened mucosal areas of narrow veins radiating into a central wound. For IC / BPS, different forms of clinical, nutritional, pharmacological, and organizational care (including hydrodistens) have been suggested. Several minimally intrusive therapies for IC / BPS are available, including injections of steroid (eg, triamcinolone), intravesical botulinum toxin, dimethyl sulfoxide, and chondroitin sulfate. Additionally, oral medicines such as polysulfate sodium pentosan have been suggested. Over time though, the therapies presently available sometimes fail or are less successful. In 1929, Peterson and Hager identified the first transurethral coagulation of an HL. Several trials have also looked at the effectiveness of transurethral ablation as a therapeutic alternative for form 3 IC / BPS. While transurethral ablation is a possible therapeutic choice for type3 IC / BPS, there are no prospective, randomized trials that specifically evaluate transurethral resection (TUR) and transurethral coagulation (TUC) in extracting HL from type 3 IC / BPS. This study was conducted to evaluate the efficacy and safety of transurethral resection (TUR) and transurethral coagulation (TUC) as treatments for Hunner lesion (HL) in IC/BPS.

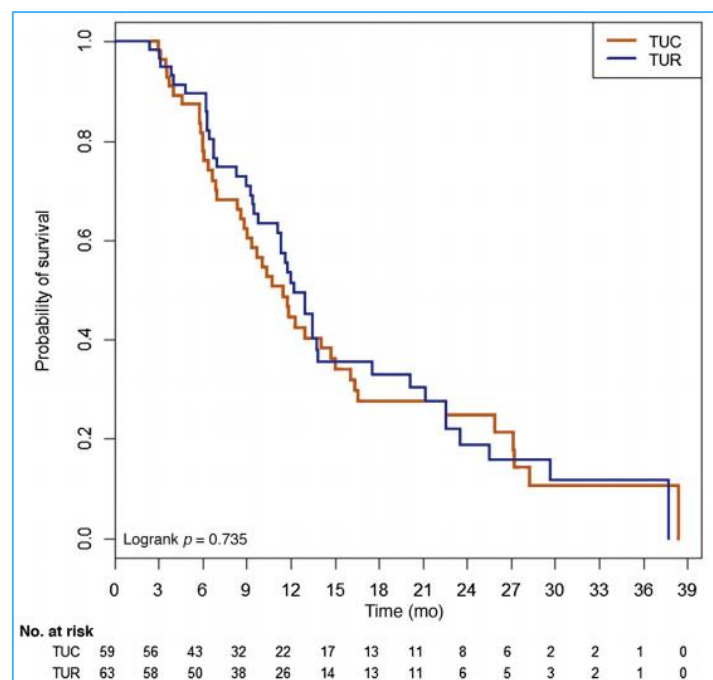
METHODS

A single-center, prospective, randomized controlled trial involving 126 patients with HL in IC/BPS. Intervention: TUR or TUC. Outcome measurements and statistical analysis: Primary outcome was recurrence-free time after surgery. Secondary outcomes included change of the number of frequency, nocturia, urgency episodes in voiding diaries, O'Leary-Sant Interstitial Cystitis Symptom Index (ICSi) and Interstitial Cystitis Problem Index (ICPI), pelvic pain and urgency/ frequency (PUF) symptom scale, and visual analog scale (VAS) for pain and risk factors for recurrence.

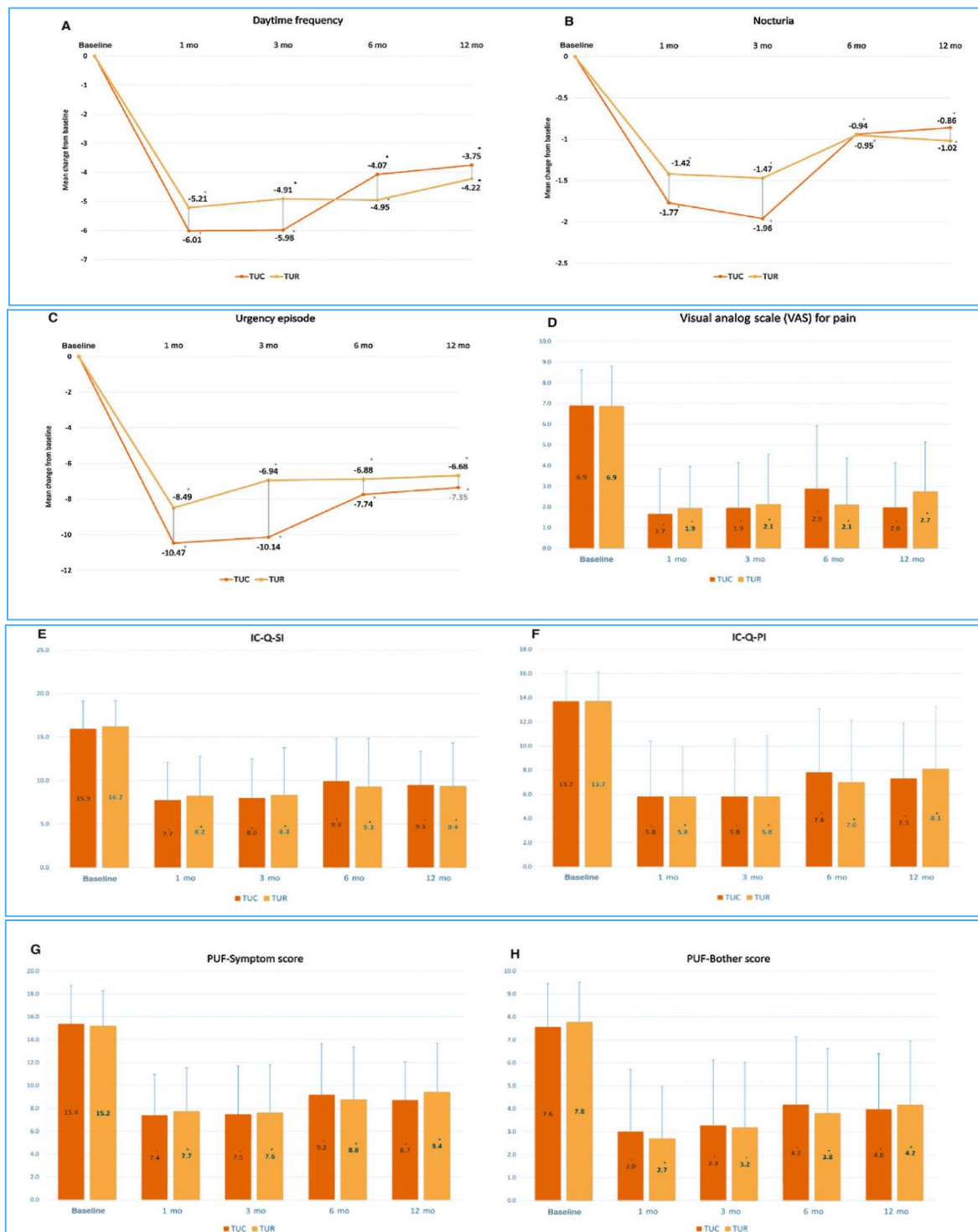


RESULTS

There were no differences in the recurrence-free time between treatment groups, a difference of 12.2 mo (95% confidence interval [CI], 11.1–17.6) for TUR, and a difference of 11.5 mo (95% CI, 9.03–16.1; $p = 0.735$) for TUC. No difference was found in decreased mean daytime frequency, nocturia, urgency episodes, ICSI, ICPI, PUF symptom scale, and VAS for pain between both groups over 12 mo. Regardless of treatment types, there were significant improvements in all symptom questionnaires and pain compared with baseline (all, $p < 0.05$). Treatment type (TUR or TUC), age, sex, previous history of hydrodistension, and number of HLs did not affect recurrence. Incidence of bladder injury was higher in the TUR group (7.9%) than in the TUC group (3.4%).



Recurrence-free curve after transurethral coagulation (TUC) or transurethral resection (TUR) of Hunner lesion.



Voiding parameters reported in a 3-d diary after treatment at each study visit: (A) change from baseline in the mean daytime frequency; (B) change from baseline in the mean number of nocturia episodes; and (C) change from baseline in the mean number of urgency episodes. Change in questionnaire scores after treatment at each study visit: (D) mean change from baseline in visual analog scale for pain; mean change from baseline in (E) O'Leary-Sant Interstitial Cystitis Questionnaire Symptom Index (IC-Q-SI) and (F) Interstitial Cystitis Questionnaire Problem Index (IC-Q-PI); and mean change in baseline of pelvic pain and urgency/frequency (PUF) (G) symptom score and (H) bother score. TUC = transurethral coagulation; TUR = transurethral resection. * $p < 0.05$ versus baseline.



CONCLUSION

The recurrence-free period for HL after TUC and TUR was no different. Hence, both TUR and TUC are deemed effective care modalities for relieving HL IC / BPS symptoms and increasing QoL. Based on this analysis, TUR could have a higher risk of causing bladder damage but the treatment result is not influenced by the operation method. The surgeon should use the form he / she is more acquainted with and at home with. It could therefore be safer to use TUC to will intraoperative risks for less skilled surgeons.

REFERENCE

Ko KJ, Cho WJ, Lee YS, et al. Comparison of the Efficacy Between Transurethral Coagulation and Transurethral Resection of Hunner Lesion in Interstitial Cystitis/Bladder Pain Syndrome Patients: A Prospective Randomized Controlled Trial. Eur Urol. 2020;77(5):644-651.



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