

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



Metastatic Bladder Cancer: New First-Line Standard

Maintenance therapy with an inhibitor of the PD-L1 immune control point improved overall survival (OS) in patients with advanced bladder cancer and stable disease after first-line chemotherapy, an interim analysis of a phase III trial was found.

Thomas Powles, MD, of the Barts Cancer Institute in London, recorded that for 700 patients with no disease worsening on an initial platinum-based treatment, those randomized to maintenance avelumab (Bavencio) plus best supportive care had a median OS of 21.4 months, compared to 14.3 months for those providing best supportive care alone (HR 0.69, 95 percent CI 0.56-0.86, $P < 0.001$).

With the switch-maintenance approach, progression-free survival (PFS) was also increased at 3.7 months' vs 2.0 months with chemotherapy alone (HR 0.62, 95 percent CI 0.52-0.75, $P < 0.001$), according to results from JAVELIN Bladder 100 reported at the annual meeting of the Virtual American Society of Clinical Oncology, with updates online this year as a consequence of the COVID-19 pandemic.

Powles said first-line maintenance of Avelumab is a new first-line standard of care for advanced urothelial cancer in patients whose disease has not progressed with platinum-based induction therapy. The study also met its co-primary endpoint, showing an improvement in OS at high PD-L1 expressors with avelumab. A tendency towards improved OS has been shown in patients with low expression of PD-L1. Powles added it looks like it is heading in the right direction. In the view of the patient you will definitely like the avelumab.

Although 65%-75% of advanced patients with bladder cancer respond to platinum-based first-line chemotherapy, such responses are usually brief. PD-1 / L1-directed immunotherapy is a first-line option already approved, but only for patients who are not eligible for platinum-based chemotherapy. A variety of such agents are licensed in patients engaging in first-line chemotherapy, but in reality only around 25%-55% are obtaining second-line agents. Reached for comment, Guru Sonpavde, MD, of the Boston-based Dana-Farber Cancer Institute, called the first-line chemotherapy trial "changing practice" for patients with stable disease.

Sonpavde, who was not involved in the study, said he would offer all patients avelumab regardless of PD-L1 status for the tumor. He noted that while the PD-L1-low subgroup appeared to benefit less, analyzes for such an analysis were not formally powered.

Some first-line experiments are out front evaluating chemotherapy formulations and immunotherapy of anti-PD-1 / L1. One such study — IMvigor130 — has already demonstrated a moderate increase in PFS with atezolizumab (Tecentriq) applied to platinum chemotherapy, however OS results remain incomplete, and inhibition of single-agent PD-1 / L1 is likely to have a favorable therapeutic index, Sonpavde said. JAVELIN Bladder 100 enrolled 700 patients with unresectable, locally advanced or metastatic bladder cancer after first-line platinum-based chemotherapy with at least stable illness.



Following a treatment-free period of 4 to 10 weeks, patients were randomized 1:1 to avelumab maintenance (10 mg / kg per 2 weeks) plus best supportive care (antibiotics, dietary assistance, pain relief, palliative radiotherapy) or best supportive care alone, before disease worsening or toxicity became intolerable.

Patients were stratified by metastasis site (visceral vs. non-visceral) and optimal chemotherapy response (complete or partial reaction vs. stable disease). Co-primary endpoints were OS in the general population and PD-L1-positive subgroup, which represented 51 per cent of the sample of study. PFS, objective reaction times, health and tolerability, and patient-reported results were primary secondary endpoints.

Powles said 62 percent of control arm cases went on to additional anti-cancer treatment, comprising three-fourths of people with chronic disease. Protection was achievable, he said, with toxicities that were consistent with previous avelumab monotherapy research. In 98.0 percent of patients in the repair arm, all-stage toxicities occurred relative to 77.7 percent in the monitoring arm, while category 3/4 cases occurred in 47.4 percent while 25.2 percent respectively.

While all subgroups tended to gain, major changes in OS were observed irrespective of induction chemotherapy (gemcitabine plus either cisplatin or carboplatin) or kidney function, and strong results (ECOG 0), objective reaction to chemotherapy, and non-visceral metastases were observed in older patients (about 65 years).

Source: Powles T, et al. Maintenance avelumab + best supportive care (BSC) versus BSC alone after platinum-based first-line chemotherapy in advanced urothelial carcinoma: JAVELIN Bladder 100 phase III interim analysis. ASCO 2020. J Clin Oncol 38: 2020 (suppl; abstr LBA1) doi: 10.1200/JCO.2020.38.18_suppl.LBA1



Efficiency of Different Energy Settings of Holmium: YAG Laser for Flexible Ureteroscopic Lithotripsy during Stone

INTRODUCTION

Urolithiasis is a widespread public health disease, which has now imposed a tremendous strain on the public health system. Care goal is to reach the best stone-free levels for the least attack. Percutaneous nephrolithotomy (PCNL) and flexible ureteroscopic lithotripsy (fURSL) are two major minimally invasive treatment procedures for upper urinary tract stones. With the production of ureteroscope and intracorporeal lithotripters in the last decade, fURSL is quickly becoming the first-line modality. Ho: YAG laser advancements play a key role in that process. The Ho: YAG laser is currently the most efficient intracorporeal lithotrite with an excellent safety profile and the ability to comminute any type of urinary stones. While commonly used in fURSL, Ho: YAG laser's optimum power settings are still inconclusive, though. FURSL choices include dusting and basketry (fragmentation).

Dusting is to dust stone into tiny fragments for passive removal. And basketing is for the active extraction to break stone into discrete fragments. Dusting advantages include shorter operating time, lower cost, reduced ureteral trauma, which makes it a good choice for fURSL. In contrast to basketing, the literature often suggests low energy / high frequency for dusting. There is, however, scant evidence to compare various energy settings on the dusting efficiency during fURSL. It remains unknown whether increased pulse energy will increase dusting effectiveness or shorten lithotripsy time. They performed this analysis therefore by retrospectively examining their consecutive fURSL cases utilizing different energy settings in their department to provide realistic findings for urologists.

METHODS

Data of 88 consecutive patients who underwent fURSL for upper urinary tract calculi by a single surgeon in the department reviewed retrospectively. Lumenis Power Suite 100W lithotripter with a 200 μ m laser fiber was used to comminute stones. According to energy settings, patients were divided into three groups- low energy group (LE: 0.3-0.6J), middle energy group (ME: 0.7- 1.0J), high energy group (HE: 1.1-1.5J). Frequency was set at 30Hz in all patients. ANOVA and Chi square tests were applied to compare the difference of the mean lithotripsy and operation time, early stone-free rate (eSFR), overall stone-free rate (oSFR) and complication rate.

RESULTS

A total of 32, 36 and 20 patients were included in the LE, ME and HE groups, respectively. There was no difference in the age, gender distribution or in any other stone characteristics among the three groups.



The mean lithotripsy time of LE, ME, HE was 10.9 ± 7.6 , 16.1 ± 7.0 , 23.0 ± 15.0 min respectively. The mean operation time of the three groups was 16.9 ± 7.7 , 22.3 ± 7.1 , 29.2 ± 14.9 min respectively. There were significant differences on the mean lithotripsy time ($P = 0.002$) and the mean operation time ($P = 0.001$) among the three groups. The stone-free rate was 31.8% and 87.5% respectively in eSFR and oSFR. No statistical significance was detected among the three groups in terms of the eSFR ($P = 0.89$), oSFR ($P = 0.86$), and complication rate ($P = 0.97$).

Parameter	total (n=88)	LE	groups ME	HE	P-value
Lithotripsy time (min)	16.1 ± 11.1	10.9 ± 7.6	16.1 ± 7.0	23.0 ± 15.0	0.002
Operation time(min)	22.1 ± 11.2	16.9 ± 7.7	22.3 ± 7.1	29.2 ± 14.9	0.001
No. stone free					
early	28 (31.8)	9 (28.1)	12 (33.3)	7 (35.0)	0.847
overall	77 (87.5)	28 (87.5)	32 (88.9)	17 (85.0)	0.915
Dindo-modified Clavien					
grade complications					
I	5 (5.7)	2 (6.3)	2 (5.6)	1 (5.0)	0.969
II	4 (4.5)	1 (3.1)	2 (5.6)	1 (5.0)	0.967
III	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-
IV/V	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-

Comparison of operation parameters and complication rates of different energy

CONCLUSIONS

Small pulse energy (0.3-0.6J) is more effective than the middle (0.7-1.0J) and strong pulse strength (1.1-1.5J) in fURSL with dusting. As energy reached 1.0J, dusting output dramatically decreased. Therefore, it is suggested to use low pulse intensity (0.3-0.6J) as the optimal fURSL dusting technique.

REFERENCE

Chen S, Fu N, Cui W, et al. Comparison of stone dusting efficiency when using different energy settings of Holmium: YAG laser for flexible ureteroscopic lithotripsy in the treatment of upper urinary tract calculi. Urol J. 2019;0(0):224-227.



Safety and efficacy of RIRS in patients with kidney stones who had previous open, endoscopic, or percutaneous kidney stone surgery

INTRODUCTION

Urinary stone disease is a major health problem which affects human health. The incidence of the kidney stone is usually 1-5 per cent. For the treatment of kidney stones, shock wave lithotripsy (SWL), percutaneous nephrolithotomy (PNL), open surgery, and recently retrograde intrarenal surgery (RIRS) are used. Some improvements have been ensured for the treatment of kidney stone through the recent development of technology. The invasive ones have been replaced by non-invasive methods. Despite a significant decline in preference for open surgery, for selected cases it is still pre-preferred. RIRS use has risen in recent times due to the advancement of technologies and growing expertise. Studies also suggested effectiveness of RIRS for treatment of kidney stone. Upon surgical treatment, kidney stone may require repetitive surgical intervention. Fibrosis following open surgery and changing anatomy may diminish success. There are studies of percutaneous nephrolithotomy (PNL) following open surgery procedures for treatment of the kidney stone. While PNL is an effective method of treatment, life-threatening complications may be observed. A limited number of studies on the use of RIRS following open surgery are available.

Studies are available on the factors affecting the success of RIRS. With advanced technology, its use widened. The investigators have explicitly scheduled the first research to examine the impact of prior stone surgery on the health and efficacy of RIRS. In this study, they aimed to assess the efficiency and reliability of RIRS secondary to open surgery for kidney stone treatment. Moreover, they planned to compare the efficacy of RIRS after previous open surgery, previous PNL and RIRS and primary patients.

METHODS

Data was retrospectively reviewed. Patients who had kidney anomalies, who had been stented due to ureteral stricture in the operation and who were < 18 years old, were excluded. There were 30 patients who underwent RIRS secondary to open surgery. The demographic and stone characteristic as well as intraoperative and postoperative data of the patients were recorded. 30 patients with similar demographic and stone characteristics to those patients were selected by match pairing method from patients who had previous PNL, RIRS history and had undergone primary RIRS. A total of 120 patients, in total 4 groups, were included in the study.



RESULTS

Statistically significant difference was detected among the groups with regards to shock wave lithotripsy history and preoperative JJ stent rate. There was no statistically significant difference in terms of stone characteristics, intraoperative and postoperative data.

	Group Previous Open Surgery	Group Previous PNL	Group Previous RIRS	Group Primary	p
Average Operation Time(min.) (±SD)	47.33 ± 19.33	56.67 ± 28.81	61.67 ± 27	52.53 ± 14.84	.157
Average Scopy Time (Sc.) (±SD)	26.17 ± 18.08	56.40 ± 18.25	32.2 ± 26.73	39.4 ± 29.19	.170
Postoperative JJ stent, n (%)	28 (93.33)	28(93.33)	30(100)	25(83.33)	.106
Ureteral Access Sheath Usage , n (%)	26 (86.67)	24(80)	27(90)	29(96.67)	.240
Average Hospitalisation Time(±SD) (day)	1	1	2,55 ± 1.47	1	.392
Success , (n) (%)	23 (76.67)	19(63.33)	19(63.33)	24(80)	.341
Stone-free , (n) (%)	23 (76.67)	18(60)	18(60)	21(70)	
Residual fragment (<3mm) , (n) (%)	0	1(3.33)	1(3.33)	3(10)	
Residual fragment (≥3mm), (n) (%)	7(23.33)	11(36.67)	11(36.67)	6(20)	
Complication rate , n (%)	1(3.33)	7(23.33)	3(10)	4(13.32)	.126
Intraoperative Complication, (n) (%)	1(3.33)	2(6.66)	1(3.33)	3(10)	
Mucosal Injury, n (%)	1(3.33)	1(3.33)	1(3.33)	3(10)	
Bleeding , n (%)	0	1(3.33)	0	0	
Postoperative Complication , n (%)	0	7(23.33)	2(6.66)	1(3.33)	
Fever (Clavien I) , n (%)	0	7(23.33)	0	0	
Bleeding (Clavien I) , n (%)	0	4(13.32)	0	0	
Urinary Tract Infection (Clavien II) , n (%)	0	0	1(3.33)	0	
Perirenal Hematom(Clavien 3a), n(%)	0	1(3.33)	0	0	
Steinstrasse(Clavien IIIb), n (%)	0	2(6.66)	2(6.66)	0	

Intraoperative and Postoperative Data of the Groups

CONCLUSION

RIRS is an effective and safe method of treating patients with prior history of open surgery, PNL, and RIRS in the kidney stone. It has a comparable efficacy and protection with patients who first underwent RIRS.

REFERENCE

Baylan B, Sari S, Cakici MC, et al. Is RIRS Safe and Efficient in Patients with Kidney Stones Who Had Previous Open, Endoscopic, or Percutaneous Kidney Stone Surgery? One Center Retrospective Study. Urol J. 2020;17(3):228-231.



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