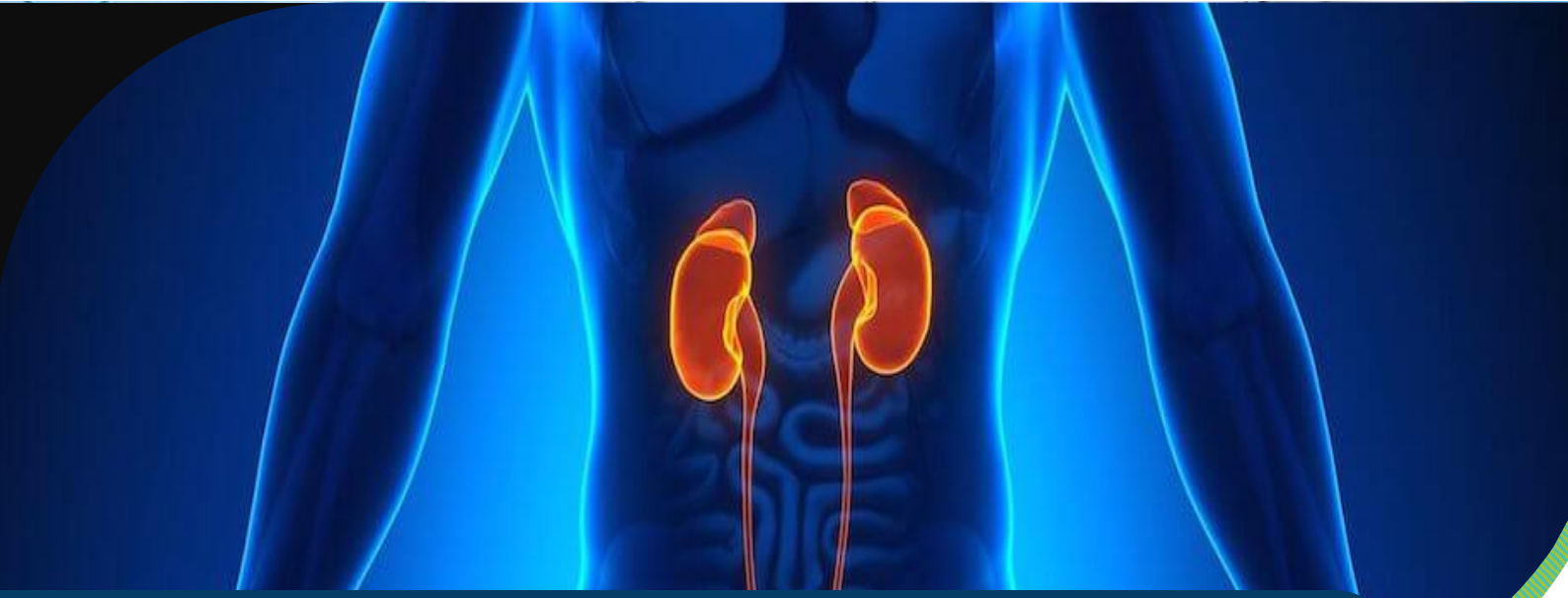

NU Rounds

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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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Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd

Relugolix vs Leuprolide in Advanced Prostate Cancer

According to a recent research reported in the New England Journal of Medicine, Relugolix, an oral gonadotropin-releasing hormone (GnRH) antagonist, is superior to leuprolide, the widely used injectable luteinizing hormone-releasing hormone (LHRH) agonist, in suppressing the development of testosterone in patients with advanced prostate cancer (PCa).

In the international phase 3 HERO trial, 930 men with PCa who had biochemical or clinical recurrence, new hormone-sensitive metastatic disease, or advanced localized disease not susceptible to definitive treatment were randomly assigned 2:1 to relugolix (120 mg once daily after a loading dose) or leuprolide (22.5 mg every 3 months) for 48 weeks. A significantly higher proportion of recipients of relugolix – 96.7 per cent vs 88.8 per cent – achieved the primary endpoint of sustained suppression of testosterone at castration levels below 50 ng / dL. The disparity between care arms of less than 10 percentage points revealed both the non-inferiority and effectiveness of relugolix over leuprolide, Neal D. Shore, MD, of Carolina Urologic Research center reported.

Relugolix also proved superior at key secondary endpoints, such as testosterone castration levels on day 4 (56% vs. 0%); deep castrate levels below 20 ng / dL on day 15 (78.4% vs. 1.0%); and suppression of follicle-stimulating hormone (FSH) at week 24 (mean FSH 1.72 vs. 5.95 IU / L). Notably, patients with Relugolix were a substantial 54% less likely to suffer severe serious coronary conditions (MACE), including non-fatal myocardial infarction or stroke or mortality from either cause: 2.9% vs 6.2%, respectively. Among men with MACE history (but no MACE in the 6 months prior to trial, which was an exclusion criterion), the investigators found an almost 5-fold difference in MACE between groups: 3.6 percent of the relugolix group vs 17.8 percent, respectively, of the leuprolide group.

The team has also looked at recovery of testosterone. Mean testosterone levels in relugolix and leuprolide subgroups at 90 days after discontinuation of treatment were 288.4 vs 58.6 ng / dL, respectively. According to the authors, the fast regeneration of testosterone after relugolix usage could be clinically important for patients undergoing sporadic treatment or a brief course of androgen deficiency treatment or patients seeking to heal after a complication. Celestia S. Higano, MD, of the University of Washington, Seattle, stated in an accompanying editorial that it might be appropriate to start treating people with a GnRH antagonist rather than an agonist that have pre-existing cardiovascular risk factors. Although there is no level 1 outcome evidence for a GnRH antagonist 's dominance over a GnRH agonist in regard to coronary problems or premature mortality, the oral or subcutaneous testosterone-suppression evidence for GnRH antagonists is level 1.

Source: Shore ND, Saad F, Cookson MS, et al. Oral relugolix for androgen-deprivation therapy in advanced prostate cancer [published online May 29, 2020]. N Engl J Med. doi: 10.1056/NEJMoa2004325

A comparison between PCNL, Miniperc and Ultraminiperc for lower calyceal stones

INTRODUCTION

Lower calyceal (LC) stones represent approximately 35 per cent of all kidney stones. Natural background of non-obstructing asymptomatic LC stone is not clearly established, and there is uncertain chance of progression. Though the question of how calyceal stones should be handled remains. Unanswered and patients electing expectant management should be advised regarding the potential for progression of stone-related symptoms and the need for future intervention. Stone growth, de novo obstruction, associated infection, stone composition, and acute and/or chronic pain are general indications for treatment decision.

In the case of unfavorable conditions for extracorporeal shockwave lithotripsy (ESWL), endourological interventions such as Percutaneous Nephrolithotomy (PCNL) or Retrograde Intrarenal Surgery (RIRS) are recommended at first step according to the European Association of Urology (EAU) guidelines as considered for LC stones. LC stones became a problem for patients and urologists alike. Because of LC's anatomical differences, especially with regard to stone clearance, ESWL was typically failed here. Flexible ureterorenoscopic approaches have gained prominence over time, particularly endoscopic treatment of LC stones < 2 cm in scale. But again it may not always be possible to do RIRS on all LC stones owing to certain structural problems and instrument longevity.

For LC stones, conventional PCNL has been an effective, successful and easy approach however complication risks and nephron loss are inevitable. But considering PCNL's invasiveness and morbidity, optimal management of LC stones continues to be a dilemma that has received increased attention among urologists recently. Moreover, with time, PCNL miniaturization also developed to diminish complications, bleeding and morbidities associated with access. PCNL miniaturisation has conventionally been defined by a diameter of less than 20 Fr. The currently feasible and modern alternatives with minimal invasiveness are Minipercutaneous (MP) (16–18 Fr), Ultraminiperc (UMP)(11–14 Fr) and Micropercutaneous (MicroPNL) (< 10Fr). The MP is approved for renal stones of < 2 cm in size while UMP is for renal stones of < 1.5 cm in size. A prospective multicenter randomized comparison among PCNL, MP and UMP for LC stones between 1 and 2 cm according to CT scan was performed to evaluate the efficacy and the safety of these procedures.

METHODS

Between January 2015 and June 2018, 132 consecutive patients with single lower calyceal stone were enrolled. Patients were randomized in three groups; A: PCNL; B: MP; C: UMP. 44 patients for the Group A, 47 for Group B and 41 for Group C. Exclusion criterias were the presence of coagulation impairments, age of < 18 or > 75, presence of infection or serious comorbidities. Patients were controlled with computerized tomography scan after 3 months. A negative CT or an asymptomatic patient with stone fragments < 3mm size were the criteria to assess the stone-free status. Patient characteristics, stone free rates (SFR) s, complications and re-treatment rates were analyzed.

RESULTS

The mean stone size was 16.38, 16.82 and 15.23mm respectively in Group A, B and C (p = 0.34). The overall SFR was significantly higher in Group A (86.3%) and B (82.9%) as compared to Group C (78%)(p < 0.05). The re-treatment rate was significantly higher in Group C (12.1%) and complication rates was higher in Group A (13.6%) as compared to others (p < 0.05). The hospitalization was significantly shorter in Group C compared to Group A (p = 0.04).

	Group A	Group B	Group C	*p* value A-B	*p* value A-C	*p* value B-C
Need for re-treatment (%)	6.8	4.2	12.1	0.17	0.41	**0.007**
Operating time min ± SD	45.9 ± 7.7	55.8 ± 11.4	59.3 ± 13.8	0.07	0.05	0.17
Hospitalization days ± SD	3.7 ± 1.5	2.7 ± 2.1	2.2 ± 2.1	0.06	**0.04**	0.18
Complication rate (%)	13.6	4.2	2.4	**0.001**	**0.002**	0.25
SFR at 3rd month (%)	86.3	82.9	78	0.33	**0.022**	**0.02**

Group A: PCNL, Group B: MP, Group C: UMP, SFR: Stone-free rate. Re-treatment (Secondary Interventions): Retrograde Intrarenal Surgery (RIRS)

The comparison of re-treatment needs, complications and SFRs percentages of groups

CONCLUSIONS

PCNL and MP demonstrated higher effectiveness than UMP to produce a stronger SFR. Auxiliary and retreatment levels between PCNL and MP were identical, but varied between MP and UMP. On the other side PCNL had more problems between all for these stones. The MP and UMP find a better indication whereas among others, MP appears to be the preferential alternative for 1–2 cm of LC stone intervention. In this setting further randomized comparison between RIRS and MP is required.

REFERENCE

Bozzini G, Aydogan TB, Müller A, et al. A comparison among PCNL, Miniperc and Ultraminiperc for lower calyceal stones between 1 and 2 cm: a prospective, comparative, multicenter and randomised study. BMC Urol 2020;20: 67

Comparison of perioperative outcomes of transperitoneal laparoscopic, retroperitoneal laparoscopic and robot assisted laparoscopic adrenalectomy for adrenal tumors

INTRODUCTION

Adrenal tumor prevalence is about 1.5 to 9.0%. Approximately 10 percent of adrenal tumors are functional, with less than 5 percent malignant. The first mention of laparoscopic adrenalectomy was in 1992. At present, the open procedure has been routinely replaced as the standard treatment for adrenal tumors, with benefits such as less hemorrhage, shorter hospital stays and minimally invasive incision. In general, traditional laparoscopic adrenalectomy is conducted utilizing a laparoscopic transperitoneal (TLA) or laparoscopic retroperitoneal (LLA) method. Due to the large operating space TLA is suitable for all tumor sizes, while RLA is a more direct approach to the adrenal gland, eliminating the dissection of adjacent structures.

Nevertheless, for the non-articulated instruments and inefficient force transmission, laparoscopy is recognized as associated with a steep and prolonged learning curve. Robottic adrenalectomy was gradually conducted instead of laparoscopy since the introduction of the da Vinci Surgical Model, demonstrating the advantages of magnified three-dimensional visualization and completely articulating instruments. In fact, the technique has also been criticised for its lengthy process compared with laparoscopic approach, time and obviously higher cost. The aim of the present study was to compare in a high volume center the perioperative outcomes of robot-assisted TLA (RATLA) and conventional laparoscopic adrenalectomy (TLA and RLA). The research was discussed at the 34th annual congress of the EAU.

METHODS

Between April 2012 and February 2018, 241 minimally invasive adrenalectomies were performed. Cases were categorized based on the minimally invasive adrenalectomy technique. Demographic characteristics, perioperative information and pathological data were retrospectively collected and analyzed.

RESULTS

This study included 37 TLA, 117 RLA, and 87 RATLA procedures. Any two groups had comparable age, ASA score, Charlson Comorbidity Index, and preoperative hemoglobin. The tumor size for RLA patients was 2.7 ± 1.1 cm, which was significantly smaller compared to patients who underwent TLA/RATLA ($p = 0.000/0.000$). Operative time was similar in any two groups, while estimated blood loss was lower for RATLA group (75.6 ± 95.6 ml) compared with the TLA group (131.1 ± 204.5 ml) ($p = 0.041$). Conversion to an open procedure occurred in only one (2.7%) patient in the TLA group for significant adhesion and hemorrhage. There were no significant differences between groups in terms of transfusion rate and complication rate.

Length of stay was shorter for the RATLA group versus the TLA/RLA group (p = 0.000/0.029). In all groups, adrenocortical adenoma and pheochromocytoma were the most frequent histotypes.

Variable	Estimated blood loss	*p* Value
Age		0.602
≥ 50	93.3 ± 108.7	
< 50	85.4 ± 124.5	
Gender		0.178
Male	100.4 ± 152.7	
Female	80.0 ± 75.2	
BMI	NA	0.078
Preop Hb	NA	0.122
Surgical procedure		
TLA vs RATLA	131.1 ± 204.5 vs 75.6 ± 95.6	**0.041**
RLA vs RATLA	85.4 ± 88.8 vs 75.6 ± 95.6	0.452

Univariate analysis of estimated blood loss

Variable	*p* Value
Age	0.631
BMI	0.137
Tumor size	**0.022**
Preop Hb	0.330
TLA vs RATLA	**0.039**
RLA vs RATLA	0.134

Multivariate analysis of estimated blood loss

CONCLUSION

This study found robotic adrenalectomy to be as safe and effective as laparoscopic approaches. The RLA strategy continues to offer the advantages of shortened duration of stay relative to TLA. The RATLA approach shows the advantages of reduced estimated blood loss and length of stay. Robotic adrenalectomy represents a safe and effective alternative to conventional laparoscopic approaches.

REFERENCE

Ji C, Lu Q, Chen W, et al. Retrospective comparison of three minimally invasive approaches for adrenal tumors: perioperative outcomes of transperitoneal laparoscopic, retroperitoneal laparoscopic and robot-assisted laparoscopic adrenalectomy. BMC Urol 2020;20: 66