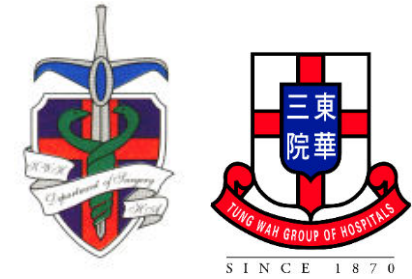




A single-center retrospective study on the outcomes of retrograde intrarenal surgery (RIRS)

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Objectives

Renal stones less than 15mm in size can be managed conservatively. There is no definite guideline regarding to management of renal stones in patients with concurrent renal and ureteric stones.

This study aimed to evaluate the efficacy and outcome of Retrograde intrarenal surgery (RIRS-URSL) versus ureteroscopic lithotripsy (URSL) in patients with concurrent ureteric and renal stones.

Patient & Methods

A retrospective comparative study was conducted to review patients' clinical outcomes who were treated with either URSL or combined RIRS-URSL between 1st January 2016 to 31st December 2018 in Kwong Wah Hospital.

Patients' demographic details and baseline clinical profile were compared using independent samples t-test and chi-square test for continuous and categorical data respectively. Differences in surgical outcomes between the two groups were compared using multinomial logistic regression controlling for baseline between-group differences in stone characteristics.

The presence of complications (i.e. ureteral wall injury, inability to reach calculus, tear of infundibulum, calyx or renal pelvis, hematoma formation, urological infections, steinstrasse and ureteric strictures) were summed to create a composite score, with the between-group difference in composite scores compared using Mann-Whitney U test. Significant differences in the incidence of readmissions within 28 days post-procedure were detected using chi-square test. The alpha level was kept at $p = .05$ with bonferroni corrections applied for multiple comparisons.

Results

Parameters	URSL (n = 66)	RIRS-URSL (n = 46)	t/ χ^2	p
Age	59.77 (12.21)	57.54 (10.94)	.99	.32
Gender (M:F)	45:21	23:23	3.76	.053
Renal stone location (Upper pole : Midpole : Lower pole)	9:14:43	7:12:27	.51	.77
Ureteric stone location (U:M:L)	21:10:35	28:3:15	9.50**	.009
Renal stone size	5.01 (4.06)	6.96 (4.82)	-2.32*	.022
Ureteric stone size	9.59 (4.45)	10.67 (6.32)	-1.00	.320
Follow Up Duration	30.92 (24.10)	39.80 (20.60)	-2.09*	.04
Operative Duration	56.53 (30.13)	86.20 (33.30)	-4.91**	<.001
Double J stent insertion	64	46	1.42	.23
Renal Stone Free Rate	0	32	64.28**	<.001
Ureteric Stone Free Rate	61	44	.482	.49
Length of Hospital Stay	2.21 (2.25)	2.50 (2.90)	-.591	.55
Complications	27	23	.48	.63
Readmission within 28 days	9	5	.19	.66

* $p < .05$ ** $p < .01$

Conclusion

Treatment of simultaneous ureteric and renal stones with combined RIRS-URSL is a safe and effective method compared to URSL alone, with increased renal stone free rates without increased complication rate.

