



P421: Short- and Long-Term Outcomes of Robotic versus Conventional Laparoscopic Surgery for Mid and Low Rectal Cancer after Chemoradiation.

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Purpose

In curative resection for locally advanced rectal cancer after chemoradiotherapy (CRT), including total neoadjuvant therapy (TNT), minimal invasive surgery becomes more difficult due to the post-treatment effects, such as tissue fibrosis and edema.

Robotic surgery (RS) has the potential to overcome the limitations of conventional laparoscopic surgery (CLS).

We designed a study to compare the short- and long-term outcomes of RS versus CLS after CRT including TNT for mid and low rectal cancer.

Patients and Methods

Case collection period: January 2014 to December 2022

The short- and long-term outcomes were compared, retrospectively

Chracteristics	Overall (N = 87)		<i>p</i>
	RS (n = 28)	LS (n = 59)	
	median [range] or n (%) or mean ± SD		
Age, years	65 [36-80]	65 [37-79]	0.9565
Sex			0.2152
Male	20 (71.5)	34 (57.6)	
Female	8 (28.5)	25 (42.4)	
Body mass index, kg/m ²	23.6 [15.4-36.2]	23.1 [17.8-43.7]	0.7129
Tumor distance from anal verge, mm	47 [15-90]	53 [24-93]	0.1602
Tumor location			0.9022
Rab	6 (21.4)	14 (23.7)	
Rb	18 (64.3)	35 (59.3)	
RbP	4 (14.3)	10 (17.0)	
cStage			0.9536
II	15 (53.6)	32 (54.2)	
III	13 (46.4)	27 (45.8)	
ycStage			0.1262
I	12 (42.9)	18 (30.5)	
II	7 (25.0)	28 (47.5)	
III	9 (32.1)	13 (22.0)	
IV	0 (0.0)	0 (0.0)	
Stage, TNM classification of malignant tumors, eighth edition			

Conclusion

RS after CRT for rectal cancer reduces postoperative complications and the duration of postoperative hospital stay, and further contributes to improved 3-year recurrence-free survival.

Short-term outcomes

Chracteristics	Operative results		<i>p</i>
	RS (n = 28)	LS (n = 59)	
	median [range] or n (%)		
Type of operation			0.4959
Low anterior resection	13 (46.4)	32 (54.2)	
Abdominoperineal resection	15 (53.6)	27 (45.8)	
Lateral lymph node dissection	0	0	n.a
Diverting ileostomy	13 / 13 (100.0)	32 / 32 (100.0)	n.a
Blood flow test using ICG*	13 / 13 (100.0)	3 / 29 (9.3)	< 0.0001
Operative time, min	356 [237-693]	300 [190-732]	0.0186
Blood loss, ml	100 [5-449]	50 [5-1275]	0.6689
Conversion to laparotomy	0 (0.0)	1 (1.6)	0.4884
Time to soft diet, days	1 [1-2]	3 [1-28]	< 0.0001
Postoperative hospital stay, days	8 [7-18]	12 [7-35]	0.0001

*ICG Indocyanine green, n.a not applicable

Postoperative complications (Clavien-Dindo ≥ II)

Chracteristics	RS (n = 28)	LS (n = 59)	<i>p</i>
	n (%)		
Patient number, CD classification ≥ Grade II	2 (7.1)	24 (40.6)	0.0005
Anastomotic leakage	0 / 13 (0.0)	8 / 32 (25.0)	0.0102
Urinary retention	0 (0.0)	3 (5.1)	0.1228
Bowel obstruction	0 (0.0)	4 (6.8)	0.0737
Wound infection	2 (7.1)	8 (13.6)	0.3628
Ureter injury	0 (0.0)	0 (0.0)	n.a
Urethral injury	0 (0.0)	1 (1.7)	0.3765
Reoperation	0 (0.0)	1 (1.7)	0.3765
30-day postoperative mortality	0 (0.0)	0 (0.0)	n.a

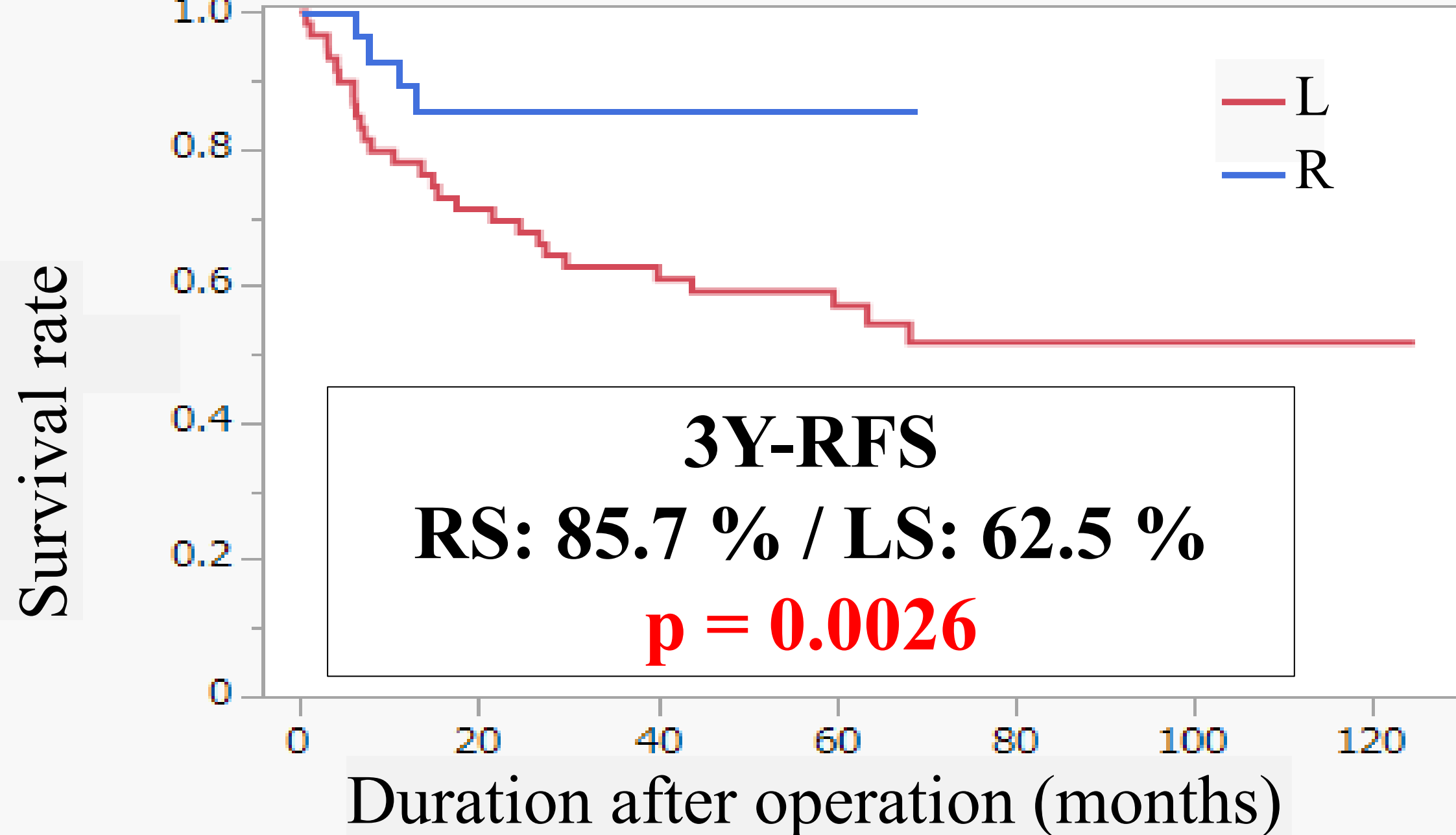
Pathological findings

Chracteristics	RS (n = 28)	LS (n = 59)	<i>p</i>
	n (%) or mean ± SD		
Positive radial margin	0 (0.0)	2 (3.4)	0.2094
Number of lymph nodes harvested	11.4 ± 5.8	9.2 ± 6.0	0.1042
Treatment effect, 1 / 2 / 3	12 (42.9) / 13 (46.3) / 3 (10.7)	33 (55.9) / 21 (35.6) / 5 (8.5)	0.5210
ypStage			0.7024
0 / I	12 (42.9)	18 (30.5)	
II	9 (32.1)	21 (35.6)	
III	5 (17.9)	15 (25.4)	
pCR	2 (7.1)	5 (8.5)	
Adjuvant chemotherapy (ypStage II / III)	6 / 14 (42.9)	14 / 36 (38.9)	0.7975

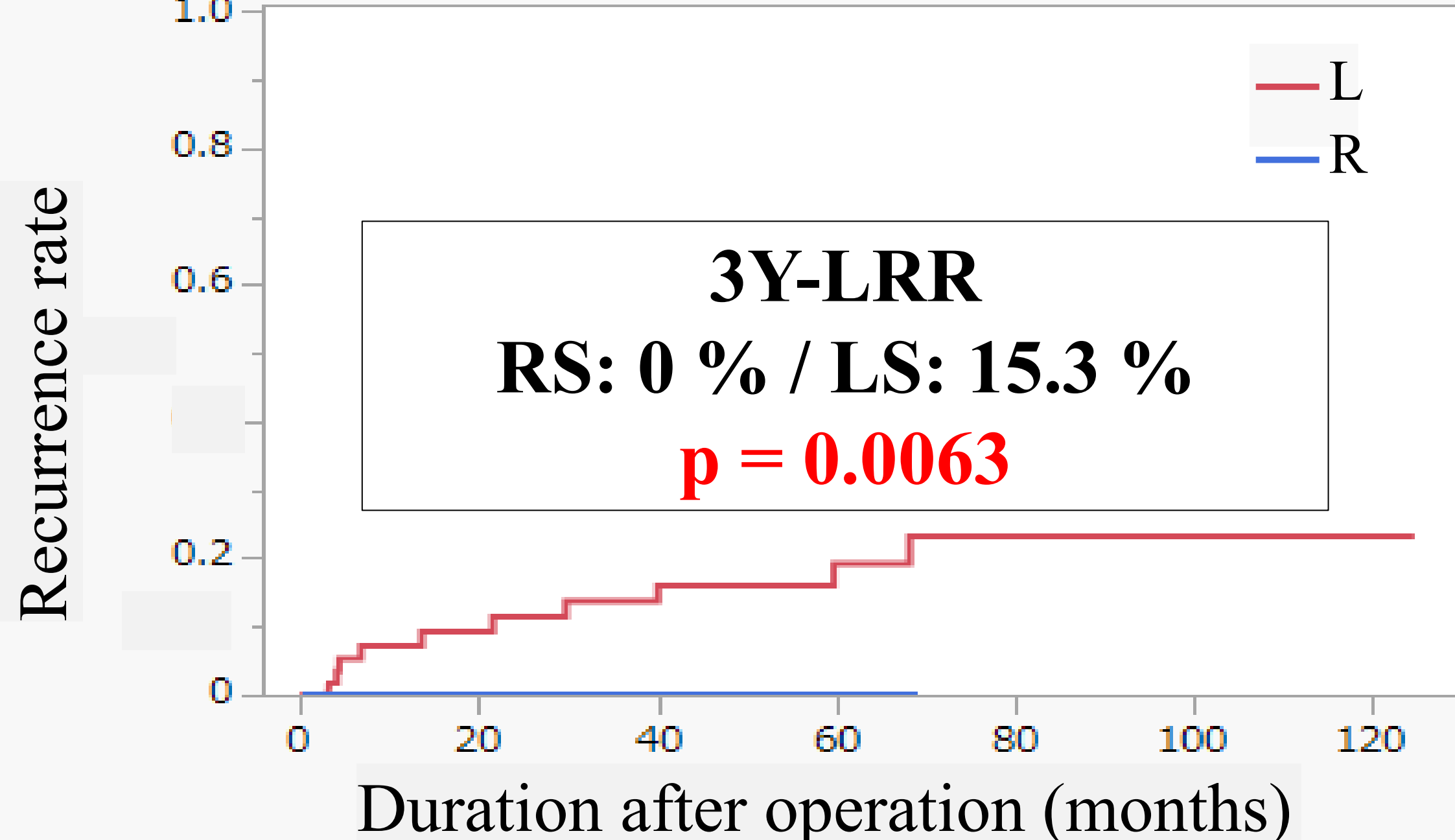
Long-term outcomes

<Median follow up duration, RS: 43.5 month, LS: 69.0 month>

Relapse-free Survival



Local recurrence rate



Overall Survival

