Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Univariable and Multivariable Analyses of NLR >5 at 3 Months After Hepatic Resection

Variable	n	NLR >5 at 3 months after hepatic resection n (%)	Univariable P	Odds ratio	95% confidence interval	Multivariable P
All patients	202	31 (15.3)				
Sex						
M	118	20 (16.9)	0.45	NA	NA	NA
F	84	11 (13.1)				
Age, years						
<60	128	18 (14.1)	0.51	NA	NA	NA
≥60	74	13 (17.6)				
ASA						
I/II	106	16 (15.1)	0.92	NA	NA	NA
III	96	15 (15.6)				
Diabetes mellitus						
Yes	18	1 (5.6)	0.23	NA	NA	NA
No	184	30 (16.3)				
Hypertension						
Yes	95	12 (12.6)	0.31	NA	NA	NA
No	107	19 (17.8)				
Use of anticoagulant agents						
Yes	48	9 (18.8)	0.45	NA	NA	NA
No	154	22 (14.3)				
NLR before hepatic resection						
>5	19	3 (15.8)	0.96	NA	NA	NA
≤5	183	28 (15.3)				
Timing of diagnosis of primary tumor and CLM						
Synchronous	148	23 (15.5)	0.90	NA	NA	NA
Metachronous	54	8 (14.8)				
Pre-hepatic-resection chemotherapy						
Yes	168	27 (16.1)	0.53	NA	NA	NA
No	34	4 (11.8)				
Pre-hepatic-resection chemotherapy cycles						
≤6	143	23 (16.1)	0.65	NA	NA	NA

>6	59	8 (13.6)				
Multiple lines of pre-hepatic-resection chemotherapy						
Yes	15	4 (26.7)	0.21	NA	NA	NA
No	187	27 (14.4)				
Fluorouracil-based chemotherapy regimen						
Oxaliplatin						
Yes	134	21 (15.7)	0.86	NA	NA	NA
No	68	10 (14.7)				
Irinotecan						
Yes	29	5 (17.2)	0.76	NA	NA	NA
No	173	26 (15.0)				
Use of bevacizumab						
Yes	121	17 (14.0)	0.53	NA	NA	NA
No	81	14 (17.3)				
Use of anti-EGFR agents						
Yes	14	3 (21.4)	0.51	NA	NA	NA
No	188	28 (14.9)				
Pre-hepatic-resection CEA value, ng/mL						
<5	118	22 (18.6)	0.12	NA	NA	NA
≥5	84	9 (10.7)				
Portal vein embolization						
Yes	18	1 (5.6)	0.23	NA	NA	NA
No	184	30 (16.3)				
Pringle maneuver						
Yes	163	24 (14.7)	0.62	NA	NA	NA
No	39	7 (17.9)				
Largest metastasis, cm						
≥3	86	11 (12.8)	0.39	NA	NA	NA
<3	116	20 (17.2)				
Number of CLM						
Multiple	113	19 (16.8)	0.51	NA	NA	NA
Solitary	89	12 (13.4)				
Residual tumor						
R1	17	3 (17.6)	0.78	NA	NA	NA
R0	185	28 (15.1)				
Operative time, min						

>180	125	22 (17.6)	0.26	NA	NA	NA
≤180	77	9 (11.7)				
Estimated blood loss, cc						
≥500	37	6 (16.2)	0.87	NA	NA	NA
<500	165	25 (15.2)				
Red blood cell transfusion*						
Yes	17	5 (29.4)	0.09	2.78	0.73-9.59	0.13
No	185	26 (14.1)				
Anatomic resection						
No	129	23 (17.8)	0.19	NA	NA	NA
Yes	73	8 (11.0)				
Surgical procedure						
Major hepatic resection	99	18 (18.2)	0.27	NA	NA	NA
Minor hepatic resection	103	13 (12.6)				
RAS status						
Wild-type	129	19 (14.7)	0.75	NA	NA	NA
Mutant	73	12 (16.4)				
Major complication (≥Clavien-Dindo grade IIIa)*						
Yes	51	17 (33.3)	*<0.001*	4.52	1.97-10.6	*<0.001*
No	151	14 (9.3)				
RLI after hepatic resection*						
Grade ≥2	50	15 (30.0)	*<0.001*	3.08	1.31-7.20	*0.01*
Grade ≤1	152	16 (10.5)				

*Variables entered into the multinominal logistic regression analyses.

NLR, neutrophil-to-lymphocyte ratio; ASA, American Society of Anesthesiologists physical status classification; CLM, colorectal liver metastasis; EGFR, epidermal growth factor receptor; CEA, carcinoembryonic antigen; RLI, remnant liver ischemia; NA, not applicable.

eTable 2. Univariable and Multivariable Analysis of Recurrence-Free Survival

Variable	N	Recurrence-free survival, No. (%)* 1 year	3 years	Univariable P†	Hazard ratio	Multivariable P‡
All patients	202	107 (52.9)	62 (30.7)	NA	NA	NA
Sex						
M	118	61 (51.7)	37 (31.0)	0.88	NA	NA
F	84	39 (46.2)	25 (29.8)			
Age at hepatic resection, y						
≥60	74	35 (47.6)	20 (27.0)	0.31	NA	NA
<60	128	72 (56.1)	42 (32.8)			
Primary tumor Location						
Rectum	41	19 (47.4)	11 (27.7)	0.24	NA	NA
Colon	161	87 (54.3)	51 (31.4)			
T category§						
T3/T4	167	87 (52.0)	47 (28.4)	0.09	1.46 (0.91-2.48)	0.12
T1/T2	35	20 (57.4)	15 (41.8)			
Lymph node metastasis						
Yes	125	67 (53.5)	34 (26.9)	0.45	NA	NA
No	77	40 (52.1)	29 (37.1)			
Pre-hepatic-resection chemotherapy						
Yes	168	84 (50.0)	50 (29.9)	0.30	NA	NA
No	34	23 (67.4)	12 (35.1)			
Liver metastases Operative time, min						
>180	125	63 (50.2)	35 (27.8)	0.47	NA	NA
≤180	77	44 (57.5)	27 (35.5)			
Estimated blood loss, cc						
≥500	37	22 (58.4)	13 (34.1)	0.90	NA	NA
<500	165	85 (51.8)	50 (30.1)			
Red blood cell transfusion						
Yes	17	9 (52.9)	7 (40.3)	0.87	NA	NA

No	185	98 (53.0)	55 (29.6)			
Surgical procedure						
Major hepatic resection	99	52 (52.8)	28 (27.9)	0.51	NA	NA
Minor hepatic resection	103	55 (53.2)	36 (34.6)			
CEA value at hepatic resection, ng/mL						
≥5	84	43 (51.6)	20 (24.4)	0.17	NA	NA
<5	118	64 (54.0)	41 (34.6)			
Timing of diagnosis of primary tumor and CLM§						
Synchronous	148	73 (49.3)	39 (26.4)	*0.02*	1.31 (0.87-2.03)	0.20
Metachronous	54	34 (62.7)	23 (41.9)			
Number of CLM§						
Multiple	113	52 (46.2)	24 (21.5)	*0.002*	1.43 (1.01-2.07)	*0.049*
Solitary	89	55 (61.6)	38 (43.2)			
Largest metastasis, cm§						
≥3	86	42 (49.3)	23 (27.2)	0.24	NA	NA
<3	116	65 (55.7)	39 (33.4)			
Residual tumor						
R1	17	11 (62.8)	9 (52.3)	0.62	NA	NA
R0	185	97 (52.4)	55 (29.7)			
***RAS* status§**						
Mutant	73	31 (41.8)	15 (20.0)	*0.001*	1.50 (1.06-2.12)	*0.02*
Wild-type	129	76 (59.2)	48 (37.2)			
Major morbidity (≥Clavien-Dindo grade IIIa)						
Yes	51	24 (46.4)	11 (21.2)	0.28	NA	NA
No	151	83 (55.0)	51 (33.7)			
RLI after hepatic resection§						
Grade ≥2	50	13 (25.4)	3 (6.4)	*<0.001*	2.68 (1.84-3.86)	*<0.001*
Grade ≤1	152	94 (62.1)	60 (39.2)			
Post-hepatic-resection chemotherapy						
Yes	184	95 (51.4)	59 (32.2)	0.68	NA	NA

No	18	(70.5)	(14.7)

*Kaplan-Meier analysis.
†Log-rank test.
‡Cox regression model.
§Variables entered into the Cox regression model.
CEA, carcinoembryonic antigen; CLM, colorectal liver metastasis; RLI, remnant liver ischemia; NA, not applicable.

eTable 3. Multivariable Cox Regression Models for RFS and CSS Among 168 Patients Undergoing Preoperative Chemotherapy and Resection of CLM

	RFS		CSS	
	HR (95% CI)	*P*	HR (95% CI)	*P*
Minor pathologic response to preoperative chemotherapy	1.71 (1.15-2.57)	*0.01*	2.02 (1.05-3.98)	*0.03*
Multiple liver metastases	1.56 (1.02–2.43)	*0.04*	NS	
Largest metastasis ≥3 cm	NS		1.68 (1.01-3.00)	*0.049*
RAS mutation	2.08 (1.41–3.06)	*<0.001*	3.27 (1.85–5.81)	*<0.001*
RLI grade ≥2 after hepatic resection	2.60 (1.71–3.89)	*<0.001*	3.27 (1.81-5.88)	*<0.001*

RFS, recurrence-free survival; CSS, cancer-specific survival; CLM, colorectal liver metastases; RLI, remnant liver ischemia; HR, hazard ratio; CI, confidence interval; NS, not significant on univariable analysis.