

**Supplementary Table 1 Clinical, radiological, and histological characteristics of the population: Pre- and Postimputation**

name	levels	Post-imputation (N=120)	Pre-imputation (N=120)	p
gender	Male	73 (60.8%)	73 (60.8%)	1.000
	Female	47 (39.2%)	47 (39.2%)	
ageCRC	Mean ± SD	59.1 ± 10.1	59.1 ± 10.1	1.000
agelung	Mean ± SD	61.6 ± 10.0	61.6 ± 10.0	1.000
smoker	No	86 (71.7%)	86 (71.7%)	1.000
	Yes	34 (28.3%)	34 (28.3%)	
Adjuvant chemotherapy for CRC	No	35 (29.2%)	35 (29.2%)	1.000
	Yes	85 (70.8%)	85 (70.8%)	
Differentiation	Moderate	104 (86.7%)	76 (84.4%)	.886
	Moderate to poor/poor	3 (2.5%)	3 (3.3%)	
	Well/well to moderate	13 (10.8%)	11 (12.2%)	
Tstage	1	3 (2.5%)	3 (3.5%)	.969
	2	10 (8.3%)	8 (9.3%)	
	3	89 (74.2%)	62 (72.1%)	
	4	18 (15%)	13 (15.1%)	
Nstage	0	46 (38.3%)	37 (40.7%)	.941
	1	51 (42.5%)	35 (38.5%)	
	2	21 (17.5%)	17 (18.7%)	
	3	2 (1.7%)	2 (2.2%)	
Perioperative chemotherapy	0	66 (54.2%)	66 (54.2%)	1.000
	1	54 (45.8%)	54 (45.8%)	

name		levels	Post-imputation (N=120)	Pre-imputation (N=120)	p
Prior metastasis	extrathoracic	No	109 (90.8%)	109 (90.8%)	1.000
		Yes	11 (9.2%)	11 (9.2%)	
Access		open	25 (20.8%)	25 (20.8%)	1.000
		vats	95 (79.2%)	95 (79.2%)	
Type of resection		Lobe	50 (41.7%)	50 (41.7%)	1.000
		Segmental wedge	70 (58.3%)	70 (58.3%)	
Number of metastatic lesions		1	96 (80%)	96 (80%)	1.000
		>1	24 (20%)	24 (20%)	
Tumor size(cm)		≤2cm	66 (55%)	63 (53.8%)	.962
		>2 cm	54 (45%)	54 (46.2%)	
Bilateral nodules	pulmonary	No	113 (94.2%)	113 (94.2%)	1.000
		Yes	7 (5.8%)	7 (5.8%)	
Lymph node dissection		No	66 (55%)	66 (55%)	1.000
		Yes	54 (45%)	54 (45%)	
Positive LN at PM		No	112 (93.3%)	112 (93.3%)	1.000
		Yes	8 (6.7%)	8 (6.7%)	
CEA		≤5 ng/ml	73 (60.8%)	62 (61.4%)	1.000
		>5 ng/ml	47 (39.2%)	39 (38.6%)	
Metachronous frequency		No	12 (10%)	12 (10%)	1.000
		Yes	108 (90%)	108 (90%)	
Primary tumor location		1	105 (87.5%)	105 (87.5%)	1.000
		2	15 (12.5%)	15 (12.5%)	
		Left colon	37 (30.8%)	35 (32.4%)	.963

name	levels	Post-imputation (N=120)	Pre-imputation (N=120)	p
	Rectal	62 (51.7%)	54 (50%)	
	Righ tcolon	21 (17.5%)	19 (17.6%)	

**Supplementary Table 2 Complete Case Sensitivity Analysis. Multivariate analysis of survival**

Dependent: Surv(CSS, statusCSS)		all	HR (multivariable)
Peri-operative chemotherapy	No	66 (55%)	
	Yes	54(45%)	0.49 (0.23-0.85, p=.080)
Type of resection	Lobectomy	50 (41.7%)	
	Sublobar resection	70 (58.3%)	<b>0.41 (0.19-0.90, p=.026)</b>
Number of metastatic lesions	1	96 (80.0%)	
	≥2	24 (20.0%)	<b>2.78 (1.21-6.40, p=.016)</b>
DFI	≤600	44 (36.7%)	
	>600	76 (63.3%)	0.41 (0.19-0.90, p=.024)

n=120, events=30, Likelihood ratio test=14.82 on 4 df(p=.005)

**Supplementary Table 3 Complete Case Sensitivity Analysis. Multivariate analysis of recurrence**

Dependent: Surv(DFS, statusDFS)		all	HR (multivariable)
Age lung surgery	≤60y	43 (47.3%)	
	>60y	48 (52.7%)	0.55 (0.27-1.12, p=.100)
Number of metastatic lesions	1	73 (80.2%)	
	≥2	18 (19.8%)	2.14 (1.01-4.57, p=.048)
DFI	≤600	34 (37.4%)	
	>600	57 (62.6%)	0.85 (0.42-1.71, p=.639)
primary tumor N stage	N0	37 (40.7%)	
	N1 or	54 (59.3%)	1.55 (0.74-3.26, p=.243)
	N2		

n=91, events=36, Likelihood ratio test=10.45 on 4 df(p=.034)

**Supplementary Table 4 Multivariate analysis of recurrence**

		<b>HR</b>	<b>95%CI</b>	<b>P value</b>
Recurrence				
Age at pulmonary surgery	≤ 60y			
	> 60y	0.77	0.40-1.49	p =.437
Primary tumor T stage	T1 or T2			
	T3 or T4	0.76	0.30-1.90	p =.561
Primary tumor N stage	N0			
	N1 or N2	1.22	0.62-2.43	p =.565
Pulmonary metastasis	Synchronous			
	Metachronous	1.92	0.53-6.89	p =.318
Number of metastatic lesions	1			
	≥ 2	1.93	0.96-3.88	p =.064
DFI	< = 600			
	> 600	0.66	0.33-1.31	p =.234