

Risk Factors for Distant Recurrence in Patients with Rectal Cancer Supporting Selection for Total Neoadjuvant Therapy

Supplementary Material

Abbreviations

cEMVI = clinical extramural vascular invasion

MRF = mesorectal fascia

Table A) Distribution of distance to MRF within levels of cEMVI.

	cEMVI			Total
	No	Yes	Missing	
MRF				
0-2 mm	70 (44%)	118 (45%)	96 (42%)	284 (44%)
>2 mm	40 (25%)	66 (25%)	56 (25%)	162 (25%)
Missing	49 (31%)	77 (30%)	76 (33%)	202 (31%)

Table B) Patient characteristics for patients with or without cEMVI status

Characteristic	Missing cEMVI status	Reported cEMVI status	p-value
Number of patients	228	420	
Sex			0.6
Female	88 (39%)	171 (41%)	
Male	140 (61%)	249 (59%)	
Age	64 (25 to 80)	64 (21 to 80)	0.9
Distance to anal verge*			0.010
0-5 cm	126 (55%)	181 (43%)	
>5-10 cm	91 (40%)	206 (49%)	
>10-15 cm	9 (3.9%)	31 (7.4%)	
Missing	2 (0.9%)	2 (0.5%)	
cT-stage*			0.9

Characteristic	Missing cEMVI status	Reported cEMVI status	p-value
T1-T2	11 (4.8%)	16 (3.8%)	<0.001
T3	162 (71%)	302 (72%)	
T4	54 (24%)	101 (24%)	
Tx	1 (0.4%)	1 (0.2%)	
cN-stage*			
N0	72 (32%)	73 (17%)	<0.001
N1	71 (31%)	126 (30%)	
N2	80 (35%)	215 (51%)	
Nx	5 (2.2%)	6 (1.4%)	
Distance to MRF for cT3 tumors*			0.3
0-2 mm	96 (42%)	188 (45%)	<0.001
>2 mm	56 (25%)	106 (25%)	
Irrelevant (not cT3 tumor)	66 (29%)	118 (28%)	
Missing	10 (4.4%)	8 (1.9%)	
Tumor deposit*			
Yes	4 (1.8%)	44 (10%)	<0.001
No	46 (20%)	120 (29%)	
Missing	178 (78%)	256 (61%)	
Neoadjuvant radiotherapy			
25Gyx5F	17 (7.5%)	83 (20%)	<0.001
45-52Gyx25-28F	206 (90%)	331 (79%)	
Andet	5 (2.2%)	6 (1.4%)	
Neoadjuvant chemotherapy			0.14
No	33 (14%)	80 (19%)	0.4
Yes	195 (86%)	340 (81%)	
Neoadjuvant chemotherapy type			
5-FU concomitant with radiotherapy	183 (80%)	315 (75%)	
Other combinations of chemotherapy	9 (3.9%)	16 (3.8%)	0.088
None	33 (14%)	80 (19%)	
Missing	3 (1.3%)	9 (2.1%)	
Micro radicality			
No	28 (12%)	42 (10%)	0.093
Yes	194 (85%)	375 (89%)	
Missing	6 (2.6%)	3 (0.7%)	
Adjuvant chemotherapy			0.2
No	217 (95%)	410 (98%)	
Yes	11 (4.8%)	10 (2.4%)	0.2
Adjuvant chemotherapy type			
5-FU	4 (1.8%)	4 (1.0%)	
5-FU + oxaliplatin	7 (3.1%)	6 (1.4%)	
None	217 (95%)	410 (98%)	

N (%), Mean (minimum to maximum)

5-year distant recurrence probability: Missing: 0.21 (95% CI: 0.16, 0.26), Non-missing: 0.24 (95% CI: 0.2, 0.29)

Table C: Patient characteristics for patients with or without tumor deposit status

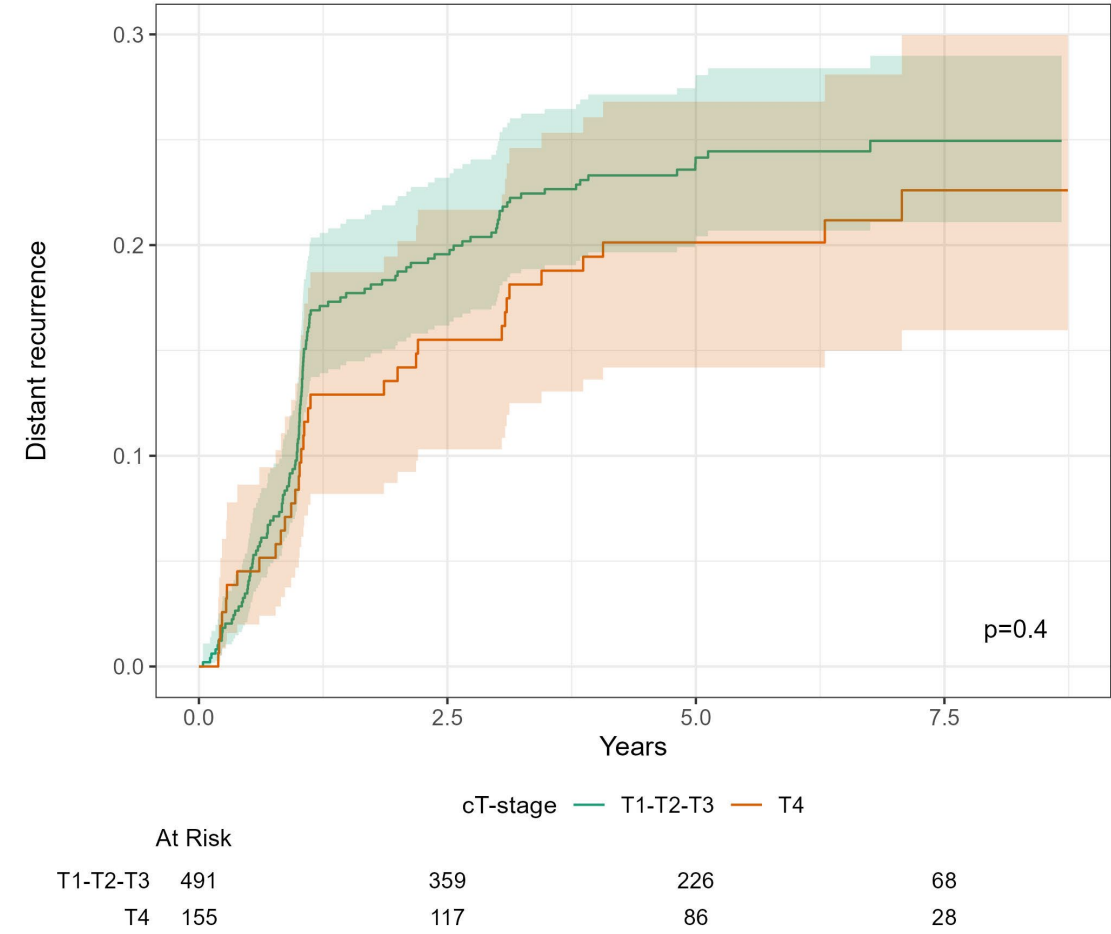
Characteristic	Missing tumor deposit status	Reported tumor deposit status	p-value
Number of patients	434	214	
Sex			0.2
Female	181 (42%)	78 (36%)	
Male	253 (58%)	136 (64%)	
Age	64 (21 to 80)	65 (22 to 80)	0.4
Distance to anal verge*			0.2
0-5 cm	201 (46%)	106 (50%)	
>5-10 cm	206 (47%)	91 (43%)	
>10-15 cm	23 (5.3%)	17 (7.9%)	
Missing	4 (0.9%)	0 (0%)	
cT-stage*			0.9
T1-T2	17 (3.9%)	10 (4.7%)	
T3	313 (72%)	151 (71%)	
T4	103 (24%)	52 (24%)	
Tx	1 (0.2%)	1 (0.5%)	
cN-stage*			0.027
N0	97 (22%)	48 (22%)	
N1	118 (27%)	79 (37%)	
N2	213 (49%)	82 (38%)	
Nx	6 (1.4%)	5 (2.3%)	
cEMVI*			<0.001
No	76 (18%)	83 (39%)	
Yes	180 (41%)	81 (38%)	
Missing	178 (41%)	50 (23%)	
Distance to MRF for cT3 tumors			0.8
0-2 mm	195 (45%)	89 (42%)	
>2 mm	105 (24%)	57 (27%)	
Irrelevant (not cT3 tumor)	121 (28%)	63 (29%)	
Missing	13 (3.0%)	5 (2.3%)	
Neoadjuvant radiotherapy			<0.001
25Gyx5F	44 (10%)	56 (26%)	
45-52Gyx25-28F	380 (88%)	157 (73%)	
Andet	10 (2.3%)	1 (0.5%)	
Neoadjuvant chemotherapy			<0.001
No	54 (12%)	59 (28%)	
Yes	380 (88%)	155 (72%)	
Neoadjuvant chemotherapy type			<0.001
5-FU concomitant with radiotherapy	355 (82%)	143 (67%)	
Other combinations of chemotherapy	22 (5.1%)	3 (1.4%)	
None	54 (12%)	59 (28%)	
Missing	3 (0.7%)	9 (4.2%)	
Micro radicality			0.5
No	44 (10%)	26 (12%)	

Characteristic	Missing tumor deposit status	Reported tumor deposit status	p-value
Yes	385 (89%)	184 (86%)	0.7
Missing	5 (1.2%)	4 (1.9%)	
Adjuvant chemotherapy			>0.9
No	419 (97%)	208 (97%)	
Yes	15 (3.5%)	6 (2.8%)	
Adjuvant chemotherapy type			
5-FU	6 (1.4%)	2 (0.9%)	
5-FU + oxaliplatin	9 (2.1%)	4 (1.9%)	
None	419 (97%)	208 (97%)	

n (%); mean (minimum to maximum)

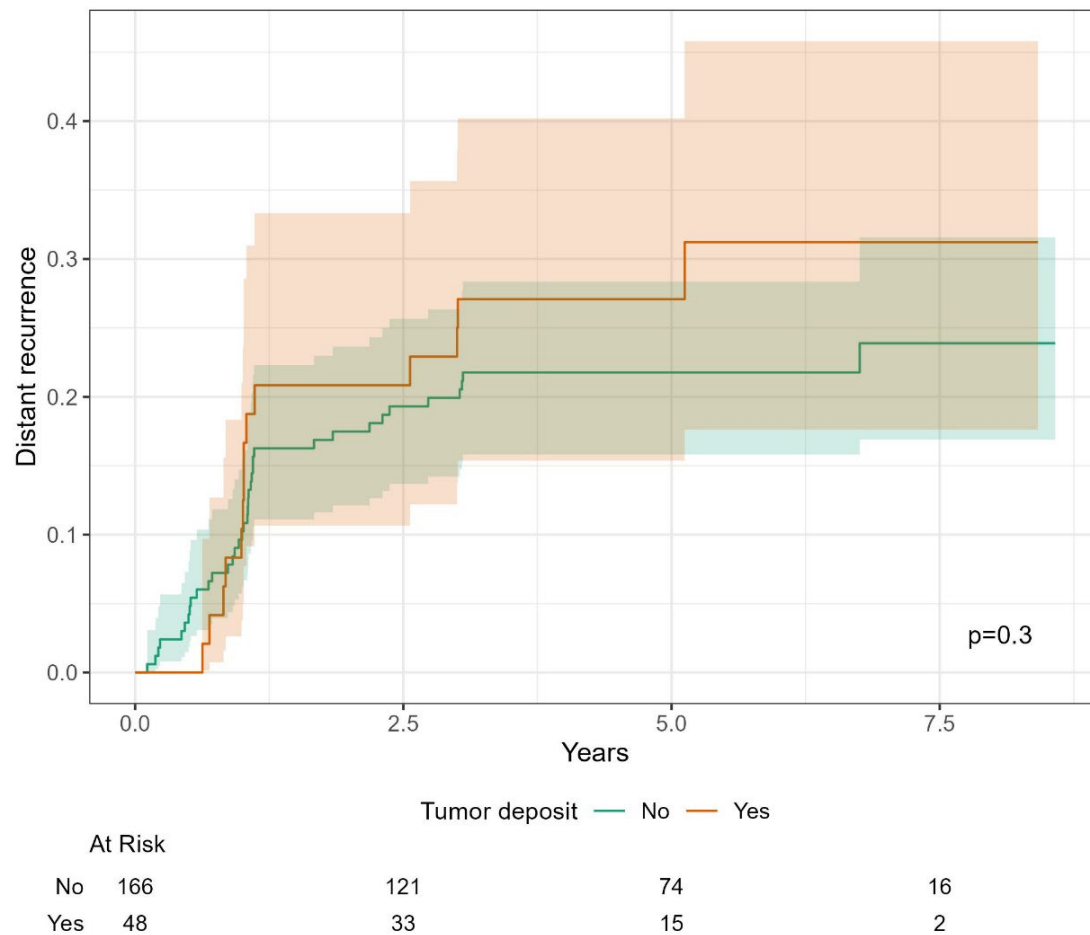
5-year distant recurrence probability: Missing: 0.23 (95% CI: 0.19, 0.27), Non-missing: 0.23 (95% CI: 0.18, 0.29)

Figure A: Cumulative incidence of distant recurrence by T-stage



Two patients with cTx-stage documented in the diagnostic MRI report were excluded in analysis.

Figure B: Cumulative incidence of distant recurrence by tumor deposit status



A total of 434 patients were excluded from the analysis due to missing documentation of tumor deposit status in the diagnostic MRI report.

Figure C) Percentage patients with missing cEMVI status in the diagnostic MRI report according to year of diagnosis

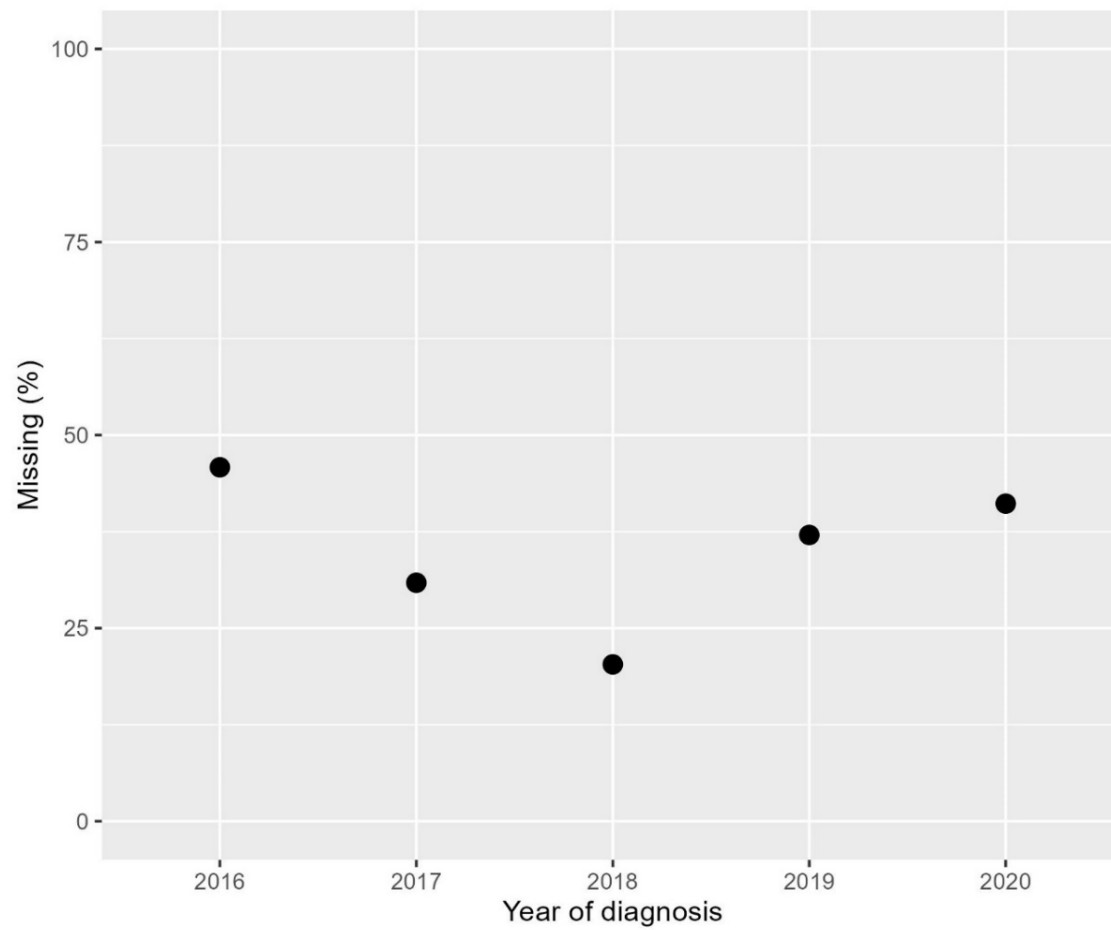


Figure D) Percentage patients with missing tumor deposit status in the diagnostic MRI report according to year of diagnosis

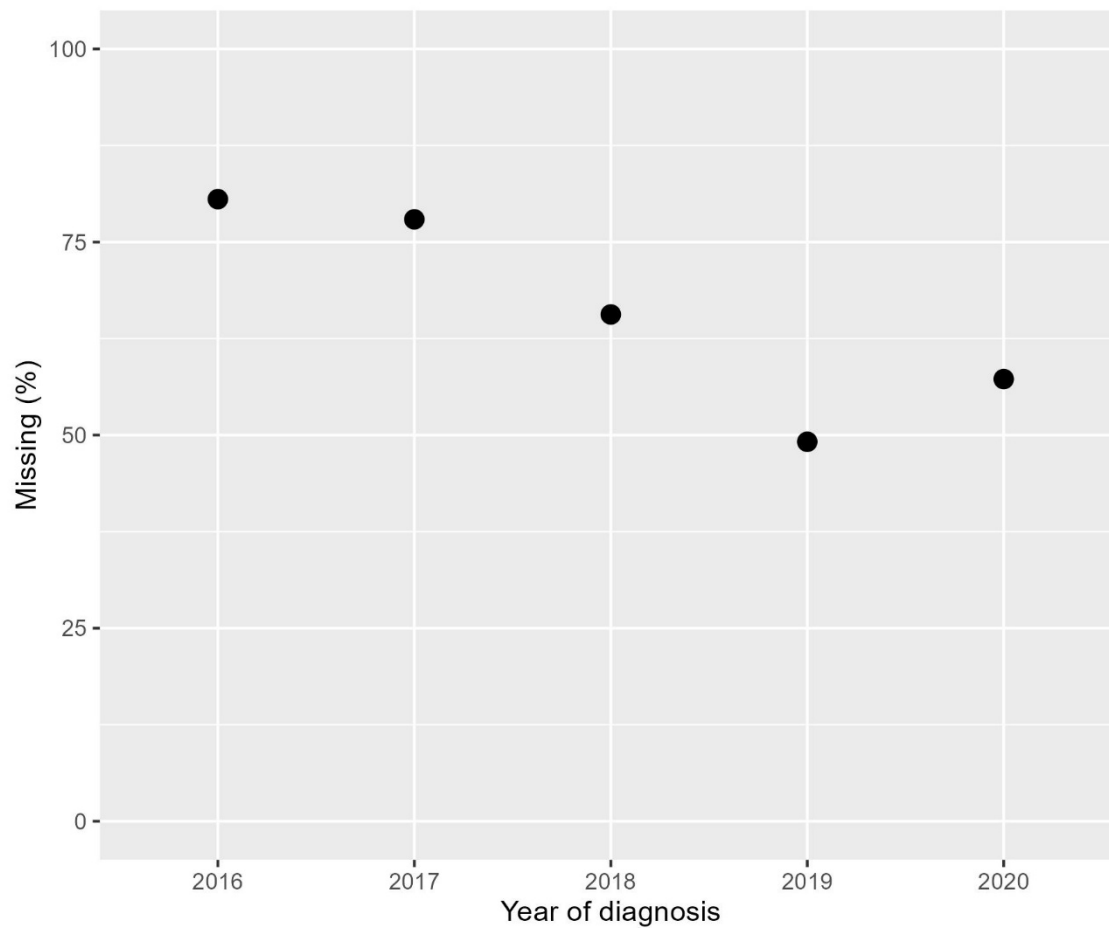
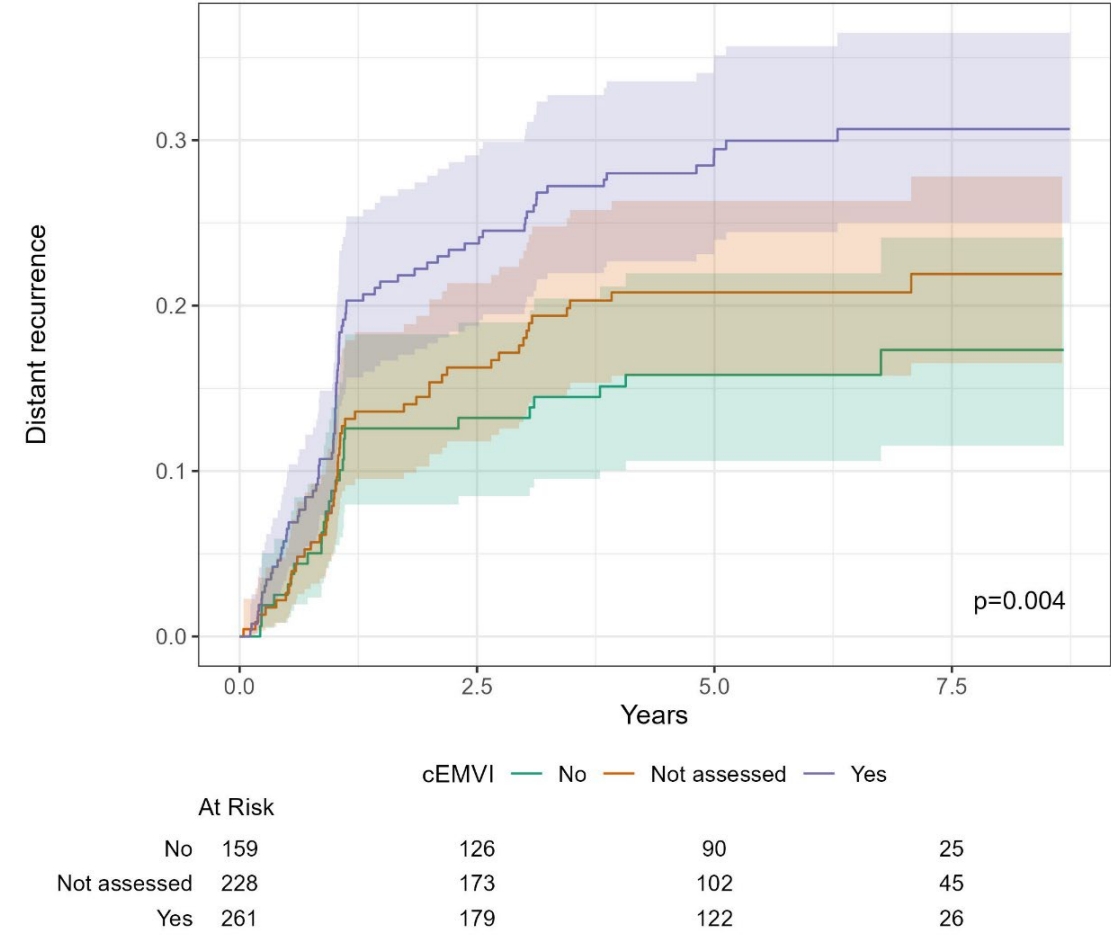


Figure E) Cumulative incidence of distant recurrence by cEMVI status



cEMVI status for the whole cohort including patients with missing documentation of cEMVI status in the diagnostic MRI report (“not assessed”).