

Additional file 5

Table S4. Multivariate Analysis for Heart V30 and Overall Survival

	Variables	HR	95% CI	<i>P</i> value
Model Heart V30/ Mean lung dose	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.757	0.893-3.456	0.102
	Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.171	0.585-2.340	0.656
	ECOG performance status (0–1 vs. 2–3)	0.229	0.114-0.459	0.000
	Stage (I&II vs. III)	0.029	0.004-0.205	0.000
	Chemotherapy regimen (F vs. NF)	0.170	0.066-0.440	0.000
	Heart volume (ml) (≤ 592 vs. > 592)	0.696	0.417-1.161	0.166
	PTV prescribed to 36 Gy (ml) (continuous)	0.997	0.996-0.999	0.004
	PTV prescribed to 50 Gy (ml) (continuous)	1.003	1.001-1.004	0.001
	Heart V30 (%) (continuous)	1.010	1.000-1.020	0.048
	Mean lung dose (cGy) (continuous)	1.001	1.000-1.002	0.017
Model Heart V30/ Lung V5	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.556	0.801-3.021	0.192
	Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.433	0.738-2.781	0.288
	ECOG performance status (0–1 vs. 2–3)	0.257	0.130-0.508	0.000
	Stage (I&II vs. III)	0.050	0.008-0.303	0.001
	Chemotherapy regimen (F vs. NF)	0.224	0.090-0.553	0.001
	Heart volume (ml) (≤ 592 vs. > 592)	0.724	0.433-1.211	0.218
	PTV prescribed to 36 Gy (ml) (continuous)	0.998	0.997-1.000	0.019
	PTV prescribed to 50 Gy (ml) (continuous)	1.002	1.001-1.004	0.005
	Heart V30 (%) (continuous)	1.009	0.999-1.020	0.068
	Lung V5 (%) (continuous)	1.016	0.990-1.043	0.230
Model Heart V30/ Lung V10	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.513	0.782-2.927	0.219
	Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.436	0.740-2.787	0.285
	ECOG performance status (0–1 vs. 2–3)	0.248	0.125-0.492	0.000
	Stage (I&II vs. III)	0.050	0.008-0.297	0.001
	Chemotherapy regimen (F vs. NF)	0.228	0.092-0.566	0.001
	Heart volume (ml) (≤ 592 vs. > 592)	0.712	0.424-1.195	0.199
	PTV prescribed to 36 Gy (ml) (continuous)	0.998	0.997-1.000	0.025
	PTV prescribed to 50 Gy (ml) (continuous)	1.002	1.001-1.004	0.005
	Heart V30 (%) (continuous)	1.011	1.001-1.020	0.035
	Lung V10 (%) (continuous)	1.016	0.980-1.054	0.389

Model	Heart V30/ Lung V20	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.498	0.778-2.887	0.227
		Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.365	0.701-2.658	0.360
		ECOG performance status (0–1 vs. 2–3)	0.226	0.111-0.458	0.000
		Stage (I&II vs. III)	0.044	0.007-0.273	0.001
		Chemotherapy regimen (F vs. NF)	0.215	0.086-0.541	0.001
		Heart volume (ml) (≤ 592 vs. > 592)	0.685	0.407-1.155	0.156
		PTV prescribed to 36 Gy (ml) (continuous)	0.998	0.996-1.000	0.015
		PTV prescribed to 50 Gy (ml) (continuous)	1.002	1.001-1.004	0.003
		Heart V30 (%) (continuous)	1.010	1.001-1.020	0.036
		Lung V20 (%) (continuous)	1.036	0.983-1.091	0.189
Model	Heart V30/ Lung V30	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.515	0.784-2.927	0.217
		Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.367	0.700-2.670	0.360
		ECOG performance status (0–1 vs. 2–3)	0.225	0.111-0.456	0.000
		Stage (I&II vs. III)	0.043	0.007-0.265	0.001
		Chemotherapy regimen (F vs. NF)	0.229	0.093-0.563	0.001
		Heart volume (ml) (≤ 592 vs. > 592)	0.672	0.397-1.140	0.141
		PTV prescribed to 36 Gy (ml) (continuous)	0.998	0.996-1.000	0.015
		PTV prescribed to 50 Gy (ml) (continuous)	1.003	1.001-1.004	0.003
		Heart V30 (%) (continuous)	1.011	1.002-1.021	0.021
		Lung V30 (%) (continuous)	1.041	0.980-1.107	0.191
Model	Heart V30/ Lung V40	Body mass index (kg/m ²) (≤ 21.3 vs. > 21.3)	1.489	0.768-2.886	0.238
		Body surface area (m ²) (≤ 1.65 vs. > 1.65)	1.410	0.724-2.745	0.312
		ECOG performance status (0–1 vs. 2–3)	0.234	0.117-0.468	0.000
		Stage (I&II vs. III)	0.043	0.007-0.265	0.001
		Chemotherapy regimen (F vs. NF)	0.247	0.102-0.601	0.002
		Heart volume (ml) (≤ 592 vs. > 592)	0.675	0.397-1.149	0.147
		PTV prescribed to 36 Gy (ml) (continuous)	0.998	0.996-1.000	0.018
		PTV prescribed to 50 Gy (ml) (continuous)	1.002	1.001-1.004	0.004
		Heart V30 (%) (continuous)	1.011	1.002-1.021	0.016
		Lung V40 (%) (continuous)	1.044	0.974-1.118	0.226

Abbreviations: *ECOG* Eastern Cooperative Oncology Group, *F* fluoropyrimidine-based, *NF* not fluoropyrimidine-based, *PTV* planning target volume, *V_x* percentage of the heart volume receiving more than x gray