

Table S1 Summary of the correlation-based feature filtering

Feature class	All features	Features kept after correlation filtering
First order	18	6
GLCM	22	13
GLDM	14	8
GLRLM	16	10
GLSZM	16	15
NGTDM	5	4
Shape	14	9
Total	105	65

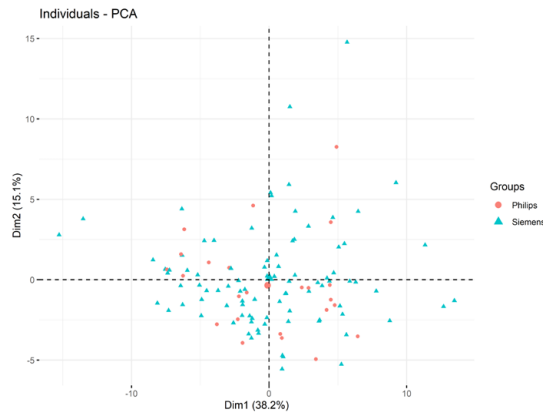


Figure S1 Principal component analysis of the radiomic features (after correlation filtering). Colors correspond to the PET/CT scanner. There is no visible grouping of samples according to the scanner.

Table S2 Potential of the data to predict event-free survival (EFS) and metastasis-free survival. Fisher’s exact test was applied for P value estimation

		EFS short (N=66)	EFS long (N=49)	MFS short (N=25)	MFS long (N=49)	P value (binary EFS)	P value (binary MFS)
Sex	Male	45	38	17	38	0.299	0.408
	Female	21	11	8	11		
HP	Squamous	49	28	16	28	0.071	0.624
	Nonsquamous	17	21	9	21		
Location	Left	38	27	14	27	0.850	1
	Right	28	22	11	22		
T	T1–2	24	17	8	17	1	1
	T3–4	42	32	17	32		
N	N0–1	12	13	5	13	0.361	0.582
	N2–3	54	36	20	36		
Zubrod score	Zero	17	17	6	17	0.311	0.431
	Nonzero	49	32	19	32		

Table S3 The potential of the data for prediction metastasis-free survival (MFS) and event-free survival (EFS). For binary MFS and EFS, the Mann-Whitney U test was used. For the continuous MFS log-rank test. Variables that were statistically significant against continuous MFS are highlighted in bold

Feature	P value (MFS)	P value (EFS)	P value (continuous MFS)
original_glcm_InverseVariance	0.066	0.401	<0.001
original_glszm_SizeZoneNonUniformityNormalized	0.016	0.022	0.003
original_glszm_SmallAreaLowGrayLevelEmphasis	0.025	0.593	0.003
original_glrIm_LongRunLowGrayLevelEmphasis	0.071	0.555	0.004
original_shape_SurfaceVolumeRatio	0.061	0.115	0.005
original_glszm_GrayLevelNonUniformity	0.023	0.047	0.006
original_glrIm_RunLengthNonUniformity	0.011	0.073	0.007
original_glszm_HighGrayLevelZoneEmphasis	0.236	0.398	0.008
original_ngtdm_Busyness	0.020	0.127	0.009
original_glszm_GrayLevelNonUniformityNormalized	0.079	0.189	0.011
original_glcm_Autocorrelation	0.388	0.903	0.014
original_glcm_JointAverage	0.306	0.989	0.014
original_glrIm_HighGrayLevelRunEmphasis	0.357	0.917	0.014
original_glszm_SizeZoneNonUniformity	0.086	0.100	0.018
original_gldm_DependenceNonUniformity	0.037	0.108	0.019
original_shape_MajorAxisLength	0.087	0.243	0.022
original_shape_LeastAxisLength	0.135	0.229	0.023
original_glrIm_ShortRunHighGrayLevelEmphasis	0.495	0.771	0.024
original_shape_Maximum2DDiameterColumn	0.031	0.061	0.025
original_ngtdm_Strength	0.039	0.083	0.027
original_shape_Maximum3DDiameter	0.084	0.229	0.028
original_glrIm_GrayLevelNonUniformity	0.053	0.185	0.031
original_glszm_LowGrayLevelZoneEmphasis	0.056	0.338	0.031
original_gldm_GrayLevelNonUniformity	0.095	0.241	0.031
original_glszm_LargeAreaLowGrayLevelEmphasis	0.135	0.433	0.033
original_firstorder_Range	0.011	0.023	0.034
original_shape_SurfaceArea	0.067	0.158	0.037
original_firstorder_Maximum	0.009	0.026	0.037
original_glszm_SmallAreaEmphasis	0.328	0.953	0.038
age	0.161	0.255	0.038
original_gldm_HighGrayLevelEmphasis	0.369	0.930	0.039
original_shape_Sphericity	0.446	0.621	0.042
original_ngtdm_Coarseness	0.052	0.136	0.042
original_glszm_ZoneEntropy	0.027	0.019	0.046
original_shape_Maximum2DDiameterSlice	0.084	0.246	0.051
original_glcm_SumEntropy	0.110	0.109	0.058

Table S3 (continued)

Table S3 (continued)

Feature	P value (MFS)	P value (EFS)	P value (continuous MFS)
original_firstorder_MeanAbsoluteDeviation	0.006	0.015	0.063
original_firstorder_Variance	0.007	0.016	0.063
original_glcm_DifferenceVariance	0.495	0.771	0.063
original_gldm_LargeDependenceLowGrayLevelEmphasis	0.236	0.819	0.065
original_shape_MeshVolume	0.061	0.162	0.066
original_shape_VoxelVolume	0.061	0.162	0.066
original_firstorder_90Percentile	0.007	0.017	0.075
original_firstorder_InterquartileRange	0.002	0.009	0.077
original_firstorder_RobustMeanAbsoluteDeviation	0.004	0.012	0.077
original_glrIm_LongRunHighGrayLevelEmphasis	0.255	0.070	0.080
original_firstorder_RootMeanSquared	0.010	0.020	0.090
original_glcm_DifferenceEntropy	0.759	0.828	0.106
original_firstorder_Uniformity	0.154	0.047	0.118
original_firstorder_Energy	0.007	0.012	0.120
original_firstorder_TotalEnergy	0.007	0.012	0.120
original_glcm_Correlation	0.311	0.547	0.122
original_glszm_LargeAreaEmphasis	0.113	0.346	0.122
original_glszm_ZoneVariance	0.121	0.343	0.122
original_firstorder_Kurtosis	0.057	0.023	0.127
original_firstorder_Mean	0.014	0.022	0.128
original_shape_Maximum2DDiameterRow	0.140	0.335	0.132
original_glszm_LargeAreaHighGrayLevelEmphasis	0.138	0.210	0.140
original_gldm_DependenceEntropy	0.210	0.430	0.148
original_glcm_Idmn	0.785	0.953	0.189
original_shape_MinorAxisLength	0.026	0.081	0.195
original_gldm_SmallDependenceHighGrayLevelEmphasis	0.510	0.673	0.195
original_glcm_Contrast	0.716	0.881	0.213
original_glcm_MaximumProbability	0.236	0.097	0.229
original_glcm_ClusterTendency	0.171	0.481	0.256
original_glrIm_RunEntropy	0.345	0.236	0.265
original_firstorder_10Percentile	0.105	0.063	0.272
original_glcm_Imc2	0.540	0.841	0.274
original_firstorder_Entropy	0.194	0.063	0.295
original_glrIm_ShortRunLowGrayLevelEmphasis	0.295	0.682	0.301
original_glszm_ZonePercentage	0.227	0.450	0.310
original_ngtdm_Contrast	0.829	0.989	0.314
original_gldm_SmallDependenceEmphasis	0.919	0.719	0.347
original_glcm_JointEntropy	0.265	0.071	0.348

Table S3 (continued)

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Feature	P value (MFS)	P value (EFS)	P value (continuous MFS)
original_glrIm_RunVariance	0.179	0.355	0.348
original_glrIm_LongRunEmphasis	0.236	0.457	0.352
original_glcm_JointEnergy	0.28	0.073	0.375
original_glrIm_ShortRunEmphasis	0.642	0.890	0.382
original_glcm_DifferenceAverage	0.964	0.894	0.391
original_glrIm_LowGrayLevelRunEmphasis	0.265	0.784	0.391
original_firstorder_Median	0.021	0.021	0.400
original_glcm_ClusterShade	0.525	0.745	0.424
original_gldm_LowGrayLevelEmphasis	0.250	0.736	0.448
original_ngtdm_Complexity	0.594	0.749	0.452
original_glcm_lmc1	0.650	0.678	0.472
original_glcm_lcn	0.919	0.823	0.473
original_glrIm_GrayLevelNonUniformityNormalized	0.141	0.049	0.475
original_glrIm_RunLengthNonUniformityNormalized	0.609	0.948	0.489
original_shape_Flatness	0.751	0.819	0.494
original_gldm_SmallDependenceLowGrayLevelEmphasis	0.510	0.574	0.513
original_shape_Elongation	0.400	0.417	0.542
original_gldm_LargeDependenceHighGrayLevelEmphasis	0.642	0.379	0.549
original_glrIm_RunPercentage	0.937	0.841	0.572
original_glcm_lcn	0.625	0.741	0.637
original_glszm_GrayLevelVariance	0.357	0.762	0.661
original_firstorder_Skewness	0.838	0.536	0.721
original_glcm_ClusterProminence	0.547	0.971	0.740
original_glszm_SmallAreaHighGrayLevelEmphasis	0.525	0.814	0.740
original_glcm_SumSquares	0.357	0.485	0.747
original_gldm_LargeDependenceEmphasis	1.000	0.823	0.774
original_glcm_lcn	0.777	0.784	0.795
original_firstorder_Minimum	0.407	0.452	0.858
original_gldm_DependenceNonUniformityNormalized	0.982	0.665	0.910
original_gldm_GrayLevelVariance	0.301	0.346	0.926
original_glrIm_GrayLevelVariance	0.400	0.510	0.983
original_gldm_DependenceVariance	0.601	0.780	0.983

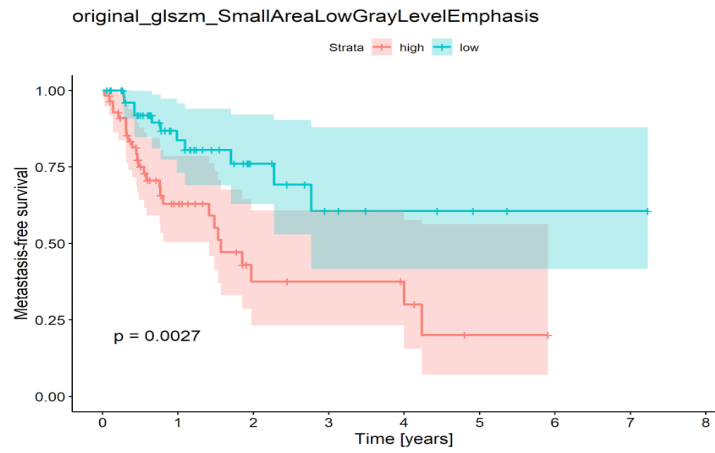


Figure S3 Kaplan-Meier plot for metastatic-free survival with high/low SmallAreaLowGrayLevelEmphasis value.

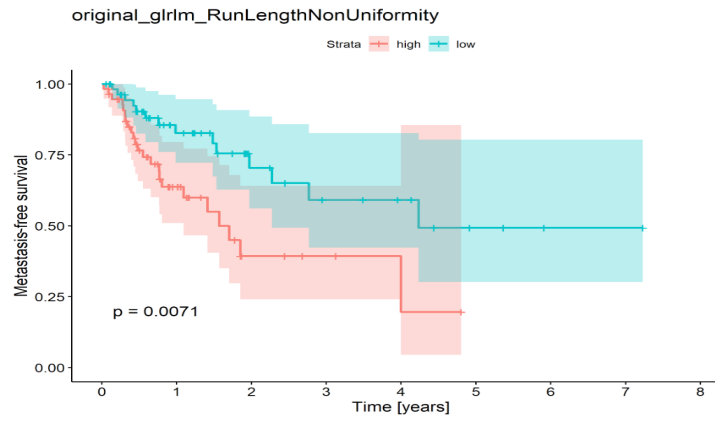


Figure S4 Kaplan-Meier plot for metastatic-free survival with high/low RunLengthNonUniformity value.