

## Appendix 1

### CT Image Scanning Parameters

The patients were injected intravenously with contrast agent (Ultravist, Iopromide, Bayer Schering Pharma AG, Leverkusen, Germany) bolus at the speed of 2.5–3.5 mL/s and a dosage of 1.1 mL/kg of weight with the scan delay time of 30 s. The lung scanning was performed from lung apex to lung basis during a breath-hold following inspiration. The CT acquisition parameters were field of view, 350×350 mm; matrix, 512×512; tube voltage, 120 kV; tube current, 300 mA; pitch, 0.98; layer thickness, 5 mm; reconstruction thickness and thickness interval, 1.25 and 1.25 mm.

## Appendix 2

$$\begin{aligned} \text{Rad-score} = & 0.302808236 \times \text{wavelet.LLL\_firstorder\_90Percentile} + (-0.227677645) \times \\ & \text{original\_glcm\_Imc2} + 0.224944227 \times \text{wavelet.HLH\_glszm\_ZoneEntropy} + (-0.222504561) \times \\ & \text{wavelet.HHL\_glcm\_Correlation} + (-0.176735501) \times \text{wavelet.HHH\_ngtdm\_Contrast} + \\ & 0.134067339 \times \text{wavelet.LLH\_glcm\_ClusterShade} + 0.086051532 \times \text{wavelet.LLH\_glrlm\_LongRunHighGrayLevelEmphasis} + \\ & 0.05809147 \times \text{wavelet.LHL\_firstorder\_Mean} + (-0.056029374) \times \text{wavelet.HHH\_glcm\_MCC} + 0.046175474 \times \\ & \text{original\_firstorder\_Kurtosis} + (-0.033741439) \times \text{wavelet.LHH\_firstorder\_Median} + (-0.031014451) \times \\ & \text{wavelet.HHH\_gldm\_SmallDependenceLowGrayLevelEmphasis} + 0.026919459 \times \text{original\_shape\_Elongation} \end{aligned}$$

**Table S1** The category list of all extracted radiomics features

Category	Original	Wavelet transformations	All
Shape	14	–	14
First-order	18	144	162
GLCM	24	192	216
GLRLM	16	128	144
GLSZM	16	128	144
GLDM	14	112	126
NGTDM	5	40	45
Total	107	744	851

GLCM, gray-level co-occurrence matrix; GLRLM, gray-level run-length matrix; GLSZM, gray-level size zone matrix; GLDM, gray-level dependence matrix; NGTDM, neighbouring gray-tone difference matrix.

**Table S2** The distribution of clinical characteristics, radiomics signature and risk level in all patients treated with surgery alone and surgery plus ACT

Characteristics	Therapy		P value
	Surgery alone (n=226)	Surgery plus ACT (n=84)	
Gender			
Male	110 (48.7%)	46 (54.8%)	0.341
Female	116 (51.3%)	38 (45.2%)	
Age (year)			
<65	179 (79.2%)	73 (86.9%)	0.122
≥65	47 (20.8%)	11 (13.1%)	
Smoking status			
Yes	87 (38.5%)	40 (47.6%)	0.147
No	139 (61.5%)	44 (52.4%)	
Pack-year			
≤3	147 (65.1%)	45 (53.6%)	0.135
3–40	41 (18.1%)	23 (27.4%)	
>40	38 (16.8%)	16 (19.0%)	
Histological grade			
Low	59 (26.1%)	13 (15.5%)	0.123
Intermediate	139 (61.5%)	57 (67.8%)	
High	28 (12.4%)	14 (16.7%)	
CEA status (μg/L)			
<5	178 (78.8%)	63 (75.0%)	0.479
≥5	48 (21.2%)	21 (25.0%)	
Ki-67 LI			
<10%	92 (40.7%)	24 (28.6%)	0.015
10–29%	96 (42.5%)	34 (40.5%)	
≥30%	38 (16.8%)	26 (30.9%)	
Tumor size (cm) <sup>‡</sup>	2.5 (1.9, 3.3)	2.8 (2.2, 3.9)	0.013
Pathological TNM stage			
IA (≤3 cm)	148 (65.5%)	45 (53.6%)	0.116
IB (3–4 cm)	50 (22.1%)	20 (23.8%)	
IIA (4–5 cm)	16 (7.1%)	12 (14.3%)	
IIB (5–7 cm)	12 (5.3%)	7 (8.3%)	
Radiomics signature <sup>‡</sup>	-0.055 (-0.476, 0.355)	0.239 (-0.352, 0.609)	0.017
Risk score			
Low risk score	149 (65.9%)	42 (50.0%)	0.01
High risk score	77 (34.1%)	42 (50.0%)	

Unless otherwise stated, data were presented as numbers (percentages) and compared using the Chi-square test. <sup>‡</sup>, data were presented as medians (inter-quartiles) and compared using the Mann-Whitney U test. ACT, adjuvant chemotherapy; CEA, carcinoembryonic antigen; LI, labeling index; TNM, tumor-node-metastasis.