Supplementary Table S1. Performance of different classifiers in sensitivity analysis

Model	AUC	Precision	F1	Cohort
LR	0.734	0.941	0.842	Train
SVM	0.67	0.941	0.842	Train
RF	0.732	0.947	0.868	Train
ExtraTrees	0.838	0.833	0.769	Train
XGBoost	0.735	0.852	0.878	Train
LightGBM	0.964	0.961	0.916	Train
MLP	0.624	0.895	0.85	Train
LR	0.613	0.333	0.154	Test
SVM	0.632	0.556	0.527	Test
RF	0.798	0.474	0.621	Test
ExtraTrees	0.743	0.462	0.522	Test
XGBoost	0.753	0.474	0.53	Test
LightGBM	0.634	0.75	0.429	Test
MLP	0.605	0.474	0.367	Test

LR – logical regression, SVM – support vector machine, RF – random forest, XGBoost – extreme gradient boosting, LightGBM – light gradient boosting machine, MLP – Multilayer Perceptron.

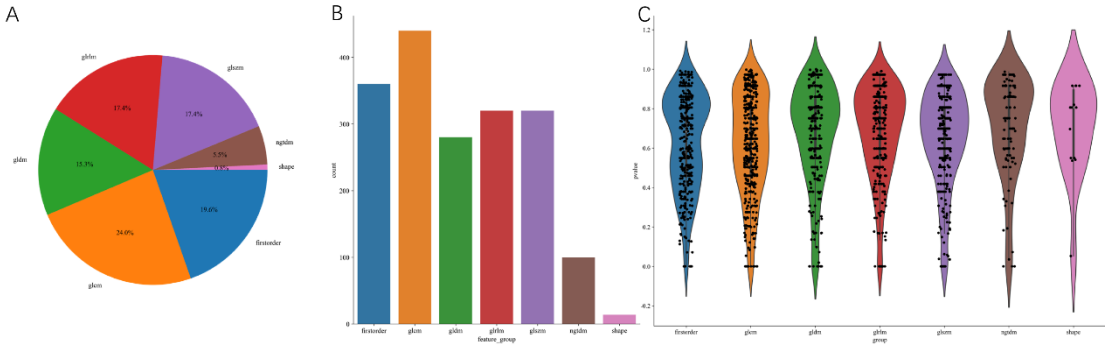
Supplementary Table S2. Full univariate analysis and multivariable regression results for all candidate clinical, laboratory, and surgical variables

Feature	Univariate analysis		Multivariate analysis	
	OR (95% CI)	*P* value	OR (95% CI)	*P* value
Pathology	1.823 (0.671-5.469)	0.254		
Age	0.983 (0.943-1.024)	0.419		
Gender	1.211 (0.66-2.228)	0.536		
T	5.333 (1.691-23.611)	0.010*	6.811 (1.898-33.722)	0.007*
N	1.138 (0.458-3.167)	0.780		
M	1.73 (0.163-37.659)	0.657		
Stage	0.964 (0.569-1.641)	0.888		
PS	1.649 (0.874-3.135)	0.124		
Weight	0.986 (0.957-1.015)	0.355		
Height	0.979 (0.951-1.007)	0.147		
Smoking status	0.985 (0.532-1.826)	0.961		
Diabetes	0.811 (0.363-1.774)	0.602		
COPD	1.076 (0.587-1.974)	0.812		
lungca_side	0.947 (0.506-1.767)	0.864		
Lobe_location	1.440 (1.037-2.019)	0.031*	1.398 (0.972-0.032)	0.073
WBC	0.984 (0.792-1.22)	0.880		
N	1.062 (0.839-1.349)	0.616		
L	0.962 (0.426-2.17)	0.925		
M	0.142 (0.013-1.479)	0.107		
NLR	0.991 (0.817-1.204)	0.929		
LMR	1.173 (1.023-1.376)	0.034*	1.212 (1.046-1.444)	0.018*
PLT	1.003 (0.997-1.008)	0.321		
PLR	1 (0.996-1.005)	0.850		
NPR	102.838 (4.559×10^{-12} -640×10^{13})	0.768		
SII	1 (0.999-1.001)	0.803		
Hb	0.988 (0.965-1.011)	0.297		
hsCRP	0.975 (0.812-1.172)	0.789		
Total P	0.995 (0.943-1.049)	0.846		
Albumin	0.985 (0.889-1.091)	0.772		
Globulin	1.049 (0.983-1.123)	0.159		
preAlbumin	0.999 (0.992-1.006)	0.759		
AST	1.027 (0.964-1.095)	0.411		
ALT	0.976 (0.946-1.006)	0.125		
LDH	1.008 (0.995-1.021)	0.233		
Lactate	1.346 (0.77-2.387)	0.301		
PAR	1.111 (0.899-1.386)	0.334		
CAR	0.297 (0-795)	0.763		

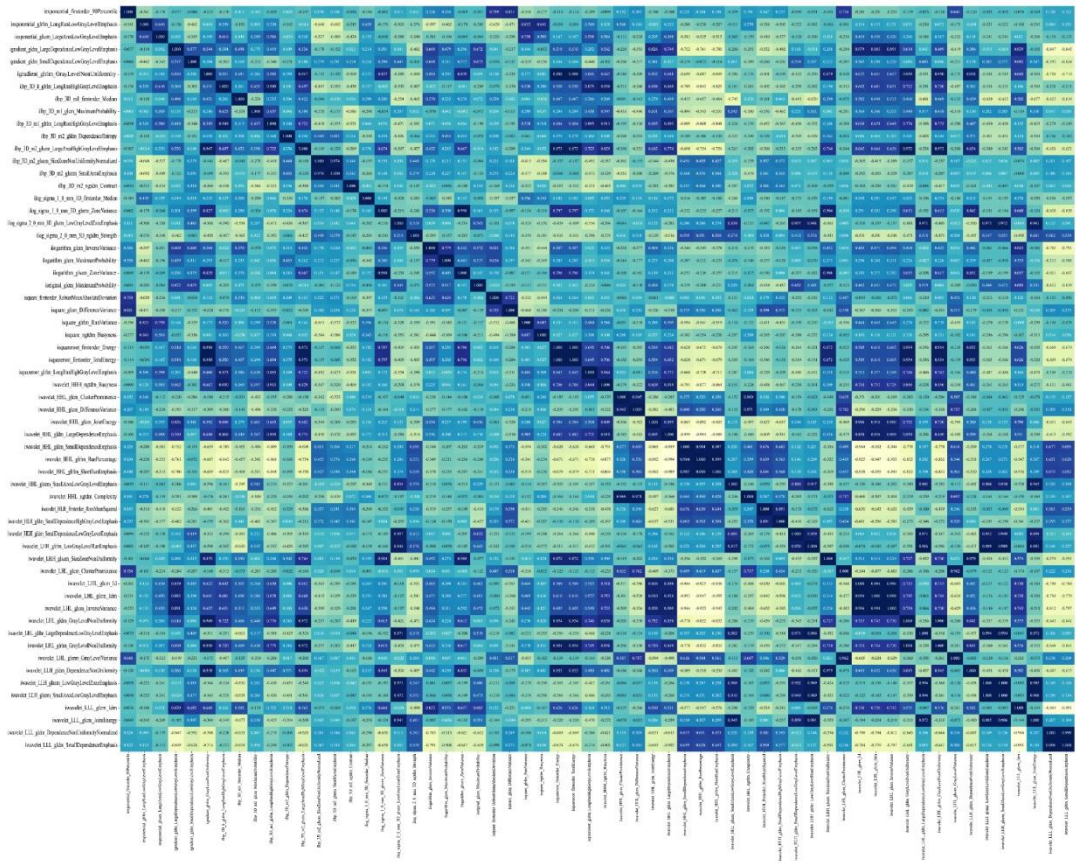
CLR	0.947 (0.78-1.148)	0.578		
CALLY_index	0.995(0.972-1.01)	0.544		
CEA	0.96(0.893-1.026)	0.244		
CYFRA21.1	1.015(0.774-1.338)	0.914		
SF	1.001(0.998-1.004)	0.674		
NSE	0.998(0.884-1.128)	0.980		
SCCA	0.456(0.224-0.901)	0.026*	0.500(0.226-1.064)	0.077
TPA	1.006(0.999-1.013)	0.093		
ProGRP	1(0.994-1.006)	0.987		
tumor_size	0.988(0.673-1.452)	0.952		
Lung_peri	0.915(0.498-1.682)	0.775		
Solidcomponent	1.02(0.707-1.473)	0.915		
surgery_time	0.789(0.423-1.463)	0.453		
Blood_loss	0.633(0.429-0.92)	0.019*	0.708(0.466-1.064)	0.100

Supplementary Table S3. DeLong test comparing different models

Pair	**Model1**	**Model2**	**AUC1**	**AUC2**	**Z**	**P_value**
Clinic_vs_Rad	Clinic	Rad	0.757	0.809	-3.726	0.0002
Clinic_vs_Nomo	Clinic	Nomo	0.757	0.876	-6.133	8.62×10^{-10}
Rad_vs_Nomo	Rad	Nomo	0.809	0.876	-3.353	0.0008



Supplementary Figure S1.



Supplementary Figure S1.