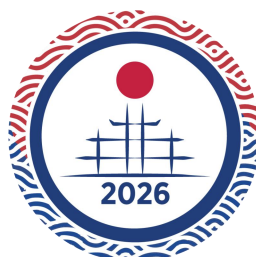


EP13.20: Prognostic Factors and a Risk Score Model for Surgically Treated Limited-Stage Small Cell Lung Cancer



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IASLC 2026 World
Conference on Lung Cancer
SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

The prognosis of limited-stage small cell lung cancer (LS-SCLC) varies considerably among patients. This study aimed to identify independent prognostic factors and develop a risk score model specifically for surgically treated LS-SCLC to inform clinical outcome prediction.

METHODS

Design: This single-center retrospective cohort study included 191 patients diagnosed with LS-SCLC who underwent surgical resection at the Fourth Hospital of Hebei Medical University between January 2018 and June 2025. Clinicopathological characteristics, treatment details, and survival data were collected. Independent prognostic factors were identified using Cox regression, and a risk score model was developed based on multivariable analysis. The primary endpoint was overall survival (OS). Model performance was evaluated using the concordance index (C-index) and time-dependent area under the receiver operating characteristic curve (AUC).

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- This study identified independent prognostic factors and developed a risk score model for surgically treated LS-SCLC. Smoking history, tumor burden, and baseline dNLR were key determinants of survival.

Future Direction for Research

- The proposed model demonstrated moderate to good discrimination for short- to medium-term survival prediction, offering a potential tool to support prognostic assessment and individualized treatment decisions in this patient population.

REFERENCES & ACKNOWLEDGEMENTS

• Use QR code to save space and to link to more extensive lists or related works.



RESULTS

The median follow-up duration was 38.6 months, and the median OS (mOS) for the cohort was 65.8 months (95% CI: 51.6–NR). Multivariable Cox regression analysis revealed that smoking history (HR = 1.42, 95% CI: 1.02–1.99, $P = 0.037$), tumor diameter >2 cm (HR = 1.96, 95% CI: 1.29–2.96, $P = 0.001$), and derived neutrophil-to-lymphocyte ratio (dNLR) ≤ 3 (HR = 2.25, 95% CI: 1.27–3.54, $P = 0.004$) were independent risk factors for OS. The risk score model developed from these factors achieved a C-index of 0.625. Time-dependent ROC analysis yielded AUC values of 0.569, 0.613, 0.695, 0.734, and 0.696 for 12-, 24-, 36-, 48-, and 60-month OS, respectively.

Variable	Univariable analysis		Multivariable analysis	
	HR (95% CI)	P	HR (95% CI)	P
Sex (female vs male)	0.99(0.55-1.76)	0.960	1.96(0.93-4.15)	0.078
Age (≥ 65 years vs <65 years)	1.25(0.74-2.10)	0.403		
ECOG performance status (1-2 vs 0)	1.04(0.61-1.77)	0.898		
Smoking status (smoker vs non-smoker)	1.58(0.92-2.73)	0.099	2.65(1.27-5.54)	0.009
Tumor location (right lung vs left lung)	0.85(0.51-1.42)	0.530		
Pathologic stage (stage II vs stage I)	1.49(0.82-2.72)	0.191		
Pathologic stage (stage III vs stage I)	1.94(1.01-3.72)	0.046		
Tumor type (central vs peripheral)	1.25(0.75-2.11)	0.392		
Neoadjuvant therapy (no vs yes)	0.93(0.55-1.57)	0.784		
MPR (no vs yes)	3.75(0.91-15.40)	0.066	3.47(0.81-14.90)	0.094
Pathologic tumor diameter (>2 cm vs ≤ 2 cm)	2.06(1.17-3.64)	0.012	2.00(1.11-3.61)	0.022
Pathologic lymph-node metastasis (yes vs no)	1.32(0.78-2.22)	0.300		
Pathologic mediastinal lymph-node metastasis (yes vs no)	1.27(0.71-2.29)	0.422		
ICIs (no vs yes)	1.93(0.88-4.27)	0.102		
TRT (no vs yes)	0.63(0.37-1.09)	0.099		
PCI (no vs yes), 0-12 months	4.75(1.38-16.43)	0.014	2.96(0.83-10.57)	0.096
PCI (no vs yes), >12 months	0.51(0.18-1.42)	0.197	0.38(0.13-1.09)	0.072
Ki-67 expression ($\geq 70\%$ vs <70%)	0.51(0.25-1.04)	0.062		
ALB (<35 g/L vs ≥ 35 g/L)	1.28(0.18-9.29)	0.809		
PLT (<300 vs $\geq 300 \times 10^9/L$), 0-12 months	3.18(0.90-11.26)	0.073	3.05(0.85-10.99)	0.087
PLT (<300 vs $\geq 300 \times 10^9/L$), >12 months	0.58(0.26-1.30)	0.189	0.56(0.24-1.28)	0.171
LDH (≥ 250 U/L vs <250 U/L)	1.07(0.51-2.26)	0.861		
NLR (>6 vs ≤ 6)	0.87(0.27-2.78)	0.813	4.04(0.65-25.08)	0.133
dNLR (>3 vs ≤ 3)	0.42(0.17-1.05)	0.064	0.23(0.06-0.99)	0.048

