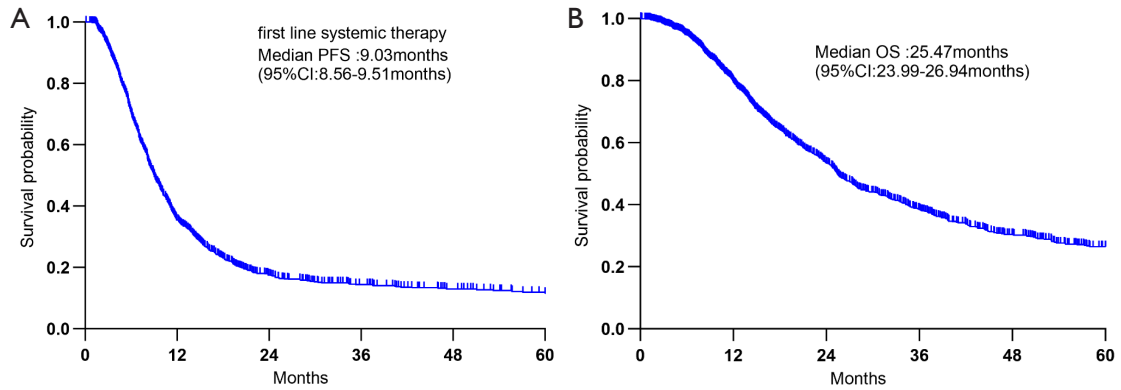
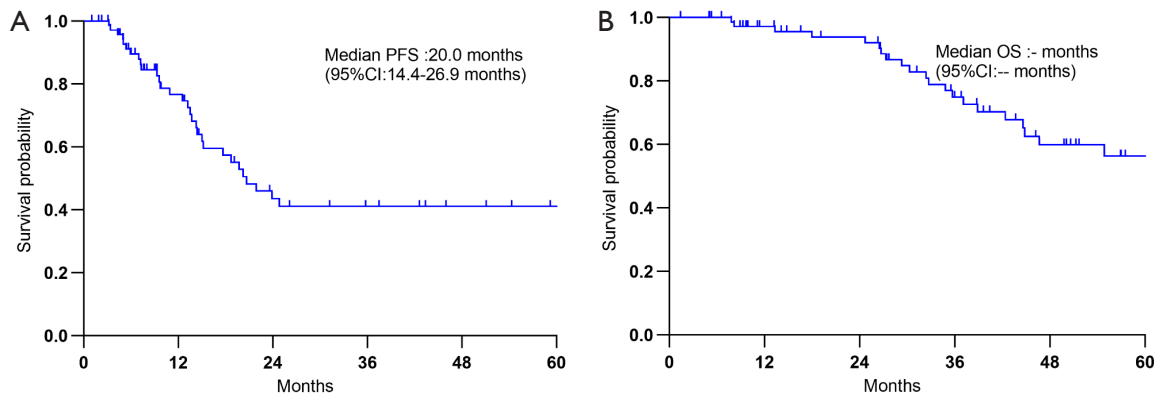


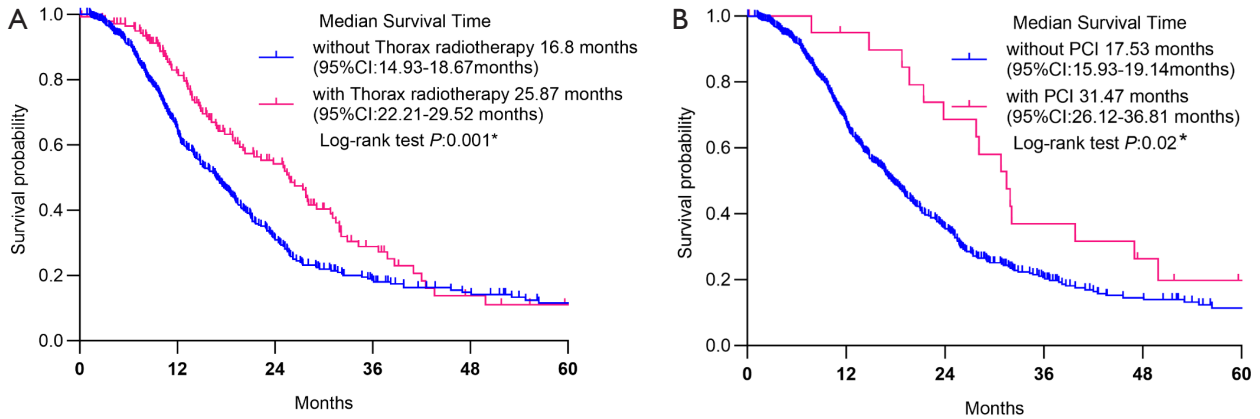
**Figure S1** Patient screening flowchart. SCLC, small cell lung cancer.



**Figure S2** (A) PFS of the overall population receiving first-line therapy. (B) OS of the overall population. CI, confidence interval; OS, overall survival; PFS, progression-free survival.



**Figure S3** (A) PFS of limited-stage patients who underwent surgery. (B) OS of limited-stage patients who underwent surgery. CI, confidence interval; OS, overall survival; PFS, progression-free survival.



**Figure S4** (A) Comparison of OS in extensive-stage patients: thoracic radiotherapy vs. no thoracic radiotherapy. (B) Comparison of OS in extensive-stage patients: PCI vs. no PCI. Significance levels are indicated by asterisks: \* $P < 0.05$ . CI, confidence interval; OS, overall survival; PCI, prophylactic cranial irradiation.

**Table S1** Multivariate analysis of the prognostic factors for PFS and OS in LS-SCLC

| Characteristics            | PFS Multivariate analysis |         | OS Multivariate analysis |         |
|----------------------------|---------------------------|---------|--------------------------|---------|
|                            | HR (95% CI)               | P value | HR (95% CI)              | P value |
| <b>Age, years</b>          |                           |         |                          |         |
| <65                        | 1                         |         | 1                        |         |
| ≥65                        | 1.043 (0.849–1.282)       | 0.69    | 1.089 (0.860–1.377)      | 0.48    |
| <b>Gender</b>              |                           |         |                          |         |
| Male                       | 1                         |         | 1                        |         |
| Female                     | 0.862 (0.718–1.036)       | 0.11    | 0.805 (0.652–0.993)      | 0.043*  |
| <b>ECOG PS score</b>       |                           |         |                          |         |
| 0–1                        | 1                         |         | 1                        |         |
| ≥2                         | 0.858 (0.626–1.177)       | 0.34    | 1.011 (0.720–1.419)      | 0.95    |
| <b>TNM</b>                 |                           |         |                          |         |
| I                          | 1                         |         | 1                        |         |
| II                         | 2.359 (1.302–4.274)       | 0.005*  | 1.203 (0.669–2.162)      | 0.54    |
| III                        | 2.751 (1.620–4.672)       | <0.001* | 1.614 (0.983–2.653)      | 0.059   |
| <b>Thorax radiotherapy</b> |                           |         |                          |         |
| No                         | 1                         |         | 1                        |         |
| Yes                        | 0.675 (0.548–0.830)       | <0.001* | 0.531 (0.426–0.663)      | <0.001* |
| <b>Surgery for SCLC</b>    |                           |         |                          |         |
| No                         | 1                         |         | 1                        |         |
| Yes                        | 0.436 (0.271–0.703)       | 0.001*  | 0.324 (0.186–0.565)      | <0.001* |
| <b>PCI radiotherapy</b>    |                           |         |                          |         |
| No                         | 1                         |         | 1                        |         |
| Yes                        | 0.553 (0.418–0.731)       | <0.001* | 0.517 (0.358–0.746)      | <0.001* |
| <b>Diagnosis time</b>      |                           |         |                          |         |
| Diagnosed before 2019      | 1                         |         | 1                        |         |
| Diagnosed after 2019       | 1.070 (0.886–1.291)       | 0.48    | 0.610 (0.488–0.763)      | <0.001* |
| <b>Treatment regimen</b>   |                           |         |                          |         |
| C                          | 1                         |         | 1                        |         |
| C+ICI                      | 0.676 (0.452–1.010)       | 0.056   | 0.343 (0.151–0.779)      | 0.01*   |
| C+A                        | 0.511 (0.189–1.386)       | 0.19    | 0.588 (0.144–2.401)      | 0.46    |

\*, statistical significance at the level of  $P < 0.05$ . CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; HR, hazard ratio; LS-SCLC, limited-stage small cell lung cancer; OS, overall survival; PCI, prophylactic cranial irradiation; PFS, progression-free survival; SCLC, small cell lung cancer.

**Table S2** Multivariate analysis of the prognostic factors for PFS and OS in ES-SCLC

| Characteristics       | PFS multivariate analysis |         | OS multivariate analysis |                     |         |
|-----------------------|---------------------------|---------|--------------------------|---------------------|---------|
|                       | HR (95% CI)               | P value |                          | HR (95% CI)         | P value |
| Age, years            |                           |         |                          |                     |         |
| <65                   | 1                         |         |                          | 1                   |         |
| ≥65                   | 0.820 (0.656–1.025)       | 0.08    | 1.299                    | (1.028–1.642)       | 0.03*   |
| Gender                |                           |         |                          |                     |         |
| Male                  | 1                         |         |                          | 1                   |         |
| Female                | 0.965 (0.791–1.176)       | 0.72    |                          | 0.852 (0.683–1.062) | 0.15    |
| ECOG PS score         |                           |         |                          |                     |         |
| 0–1                   | 1                         |         |                          | 1                   |         |
| ≥2                    | 1.132 (0.857–1.495)       | 0.38    | 1.348                    | (1.003–1.812)       | 0.047*  |
| TNM                   |                           |         |                          |                     |         |
| III                   | 1                         |         |                          | 1                   |         |
| IV                    | 1.243 (0.749–2.061)       | 0.40    |                          | 1.231 (0.629–2.408) | 0.54    |
| Thorax radiotherapy   |                           |         |                          |                     |         |
| No                    | 1                         |         |                          | 1                   |         |
| Yes                   | 0.778 (0.609–0.993)       | 0.04*   |                          | 0.664 (0.498–0.886) | 0.005*  |
| PCI radiotherapy      |                           |         |                          |                     |         |
| No                    | 1                         |         |                          | 1                   |         |
| Yes                   | 0.375 (0.203–0.692)       | 0.002*  |                          | 0.526 (0.281–0.986) | 0.045*  |
| Diagnosis time        |                           |         |                          |                     |         |
| Diagnosed before 2019 | 1                         |         |                          | 1                   |         |
| Diagnosed after 2019  | 1.473 (1.163–1.865)       | 0.001*  | 0.991                    | (0.777–1.263)       | 0.94    |
| Treatment regimen     |                           |         |                          |                     |         |
| C                     | 1                         |         |                          | 1                   |         |
| C+ICI                 | 0.568 (0.438–0.736)       | <0.001* |                          | 0.440 (0.316–0.614) | <0.001* |
| C+A                   | 0.484 (0.268–0.873)       | 0.02*   |                          | 0.547 (0.296–1.011) | 0.054   |
| C+ICI+A               | 0.320 (0.130–0.789)       | 0.01*   |                          | 0.261 (0.064–1.062) | 0.06    |

\*, statistical significance at the level of  $P < 0.05$ . CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; ES-SCLC, extensive-stage small cell lung cancer; HR, hazard ratio; OS, overall survival; PCI, prophylactic cranial irradiation; PFS, progression-free survival; SCLC, small cell lung cancer.