**Table S1** Clinical characteristics of ES-SCLC patients in the ChT/TRT and ChT-alone groups before and after matching

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variables |  | Before matching | | | After matching | | |
|  | ChT/TRT  (n=248) | ChT-alone  (n=244) | p  value | ChT/TRT  (n=146) | CHT-alone  (n=146) | p value |
| Age, y | ≥60 | 152 | 127 |  | 79 | 86 |  |
|  | <60 | 96 | 117 | 0.039 | 67 | 60 | 0.409 |
| Gender | Male | 192 | 205 |  | 116 | 120 |  |
|  | Female | 52 | 43 | 0.264 | 30 | 26 | 0.552 |
| ECOG PS score | 0-1 | 226 | 227 |  | 132 | 133 |  |
|  | 2 | 18 | 21 | 0.654 | 14 | 13 | 0.840 |
| Smoking index | ≥400 | 106 | 142 |  | 77 | 83 |  |
|  | <400 | 124 | 120 | 0.073 | 69 | 63 | 0.481 |
| Metastasis organs | single | 93 | 150 |  | 63 | 63 |  |
|  | Multiple | 151 | 98 | <0.001 | 83 | 83 | 1.000 |
| Number of metastasis | ≤2 | 47 | 20 |  | 129 | 127 |  |
|  | >2 | 197 | 228 | <0.001 | 17 | 19 | 0.722 |
| Brain metastasis | yes | 150 | 130 |  | 83 | 88 | 0.811 |
|  | no | 94 | 118 | 0.043 | 63 | 58 | 0.553 |
| Liver metastasis | yes | 72 | 125 |  | 60 | 58 |  |
|  | no | 172 | 123 | <0.001 | 86 | 88 | 0.811 |
| Bone metastasis | yes | 98 | 112 |  | 59 | 60 |  |
|  | no | 146 | 136 | 0.263 | 87 | 86 | 0.905 |
| Hydrothorax | yes | 68 | 42 |  | 37 | 30 |  |
|  | no | 176 | 206 | 0.004 | 109 | 116 | 0.330 |
| Weight loss | yes | 31 | 54 |  | 25 | 25 |  |
|  | no | 213 | 194 | 0.008 | 121 | 121 | 1.000 |
| PCI | yes | 16 | 1 |  | 1 | 1 |  |
|  | no | 226 | 247 | <0.001 | 145 | 145 | 1.000 |

**Abbreviations:** ES-SCLC: Extensive-stage small-cell lung cancer;ECOG PS: Eastern Cooperative Oncology Group performance status; PCI: Prophylactic cranial irradiation;

ChT: chemotherapy; TRT: thoracic radiotherapy; HR: hazard ratio; CI: confidence interval

**Table S2** Univariate and multivariate survival analysis evaluating the prognostic factors for PFS in patients receiving TRT.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Univariate | Multivariate | |
| p-value | HR(95%CI) | p-value |
| Age, y (≥60 vs <60) | 0.424 | - | - |
| Gender (Male vs Female) | 0.488 | - | - |
| ECOG PS score (≤1 vs＞1) | 0.158 | - | - |
| Smoking index (＜400 vs≥400) | 0.417 | - | - |
| Number of metastasis (≤2 vs ＞2) | 0 | 1.51 (0.98,2.31) | 0.060 |
| Metastasis organs (Single vs Multiple) | 0 | 1.36 (0.95,1.93) | 0.092 |
| Brain metastasis (yes vs no) | 0 | 1.48 (1.07,2.06) | 0.019 |
| Liver metastasis (yes vs no) | 0 | 1.49 (1.09,2.04) | 0.012 |
| Bone metastasis (yes vs no) | 0 | 1.39 (1.03,1.89) | 0.034 |
| Hydrothorax (yes vs no) | 0.017 | 1.32 (0.98,1.80) | 0.066 |
| Weight loss (yes vs no) | 0.144 | - | - |
| PCI (yes vs no) | 0.002 | 0.47 (0.26,0.85) | 0.043 |
| Radiation time |  |  |  |
| ≤2 cycles vs ＞6 cycles | 0.020 | 0.77 (0.47,1.28) | 0.316 |
| 3-4 cycles vs ＞6 cycles | 0.051 | 0.89 (0.58,1.39) | 0.616 |
| 5-6 cycles vs ＞6 cycles | 0.096 | 0.88 (0.57,1.34) | 0.539 |
| Radiation dose (≤50Gy vs ＞50Gy) | 0.810 | - | - |

**Abbreviations:** ES-SCLC: Extensive-stage small-cell lung cancer;ECOG PS: Eastern Cooperative Oncology Group performance status; PCI: Prophylactic cranial irradiation; PFS: progression-free survival; TRT: thoracic radiotherapy; HR: hazard ratio; CI: confidence interval

**Table S3** Univariate and multivariate survival analysis evaluating the prognostic factors for LRFS in patients receiving TRT.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Univariate | Multivariate | |
| p-value | HR(95%CI) | p value |
| Age, y (≥60 vs <60) | 0.555 | - | - |
| Gender (Male vs Female) | 0.203 | - | - |
| ECOG PS score (≤1 vs＞1) | 0.048 | 0.63 (0.38,1.05) | 0.074 |
| Smoking index (＜400 vs≥400) | 0.045 | 1.40 (1.05,1.86） | 0.023 |
| Number of metastasis (≤2 vs ＞2) | 0.002 | 1.30 (0.83,2.01) | 0.258 |
| Metastasis organs (Single vs Multiple) | 0.001 | 1.20 (0.83,1.72) | 0.334 |
| Brain metastasis (yes vs no) | 0.680 | - | - |
| Liver metastasis (yes vs no) | 0.001 | 1.50 (1.09,2.05) | 0.012 |
| Bone metastasis (yes vs no) | 0.026 | 1.01 (0.75,1.38) | 0.928 |
| Hydrothorax (yes vs no) | 0.144 | - | - |
| Weight loss (yes vs no) | 0.139 | - | - |
| PCI (yes vs no) | 0.005 | 0.39 (0.20,0.77) | 0.007 |
| Radiation time |  |  |  |
| ≤2 cycles vs ＞6 cycles | 0.000 | 0.46 (0.30,0.72) | 0.001 |
| 3-4 cycles vs ＞6 cycles | 0.001 | 0.48 (0.30,0.74) | 0.001 |
| 5-6 cycles vs ＞6 cycles | 0.000 | 0.43 (0.25,0.71) | 0.001 |
| Radiation dose (≤50Gy vs ＞50Gy) | 0.942 | - | - |

**Abbreviations:** ES-SCLC: Extensive-stage small-cell lung cancer; ECOG PS: Eastern Cooperative Oncology Group performance status; PCI: Prophylactic cranial irradiation; LRFS: local recurrence-free survival; TRT: thoracic radiotherapy; HR: hazard ratio; CI: confidence interval

**Figure S1** Kaplan-Meier survival curves of all patients before matching: (A) overall survival, (B) progression-free survival, and (C) local recurrence-free survival

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**Figure S2** Kaplan-Meier survival curves of all patients after matching: (A) overall survival, (B) progression-free survival, and (C) local recurrence-free survival.

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