**Electronic Supplementary Material**

**Definitive chemoradiotherapy has comparable survival outcomes to esophagectomy in patients with clinical T1N0M0 esophageal squamous cell carcinoma: real world data**

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Supplementary Table 1. Pathologic findings in patients who underwent esophagectomy

|  |  |  |
| --- | --- | --- |
|  | All patients  (n=120) | Elderly patients  (n=21) |
| n (%) | n (%) |
| Pathologic T stage  T1a  T1b  T2  T3 | 14 (11.7)  100 (83.3)  5 (4.2)  1 (0.8) | 1 (4.8)  19 (90.5)  1 (4.8)  0 |
| Pathologic N stage  N0  N1  N2  N3 | 88 (73.3.3)  24 (20.0)  7 (5.8)  1 (1.0) | 15 (71.4)  3 (14.3)  3 (14.3)  0 |
| Pathological T1N0M0  Yes  No | 86 (71.7)  34 (28.3) | 15 (71.4)  6 (28.6) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 50.4Gy  (n=16) | | 60Gy  (n=20) | | P values\* |
| Any grade  n (%) | ≥ Grade 3  n (%) | Any grade  n (%) | ≥ Grade 3  n (%) |  |
| Hematologic adverse events  Leucopenia  Neutropenia  Anemia  Thrombopenia  Non-hematologic adverse events  (Early toxicity)  Esophagitis  Anorexia  Creatinine increase  Stomatitis  (Late toxicity)  Pleural effusion  Irradiation pneumonitis  Pericardial fluid | 16 (100.0)  15 (93.8)  10 (62.5)  8 (50.0)  13 (81.3)  6 (37.5)  2 (12.5)  0  3 (18.8)  3 (18.8)  2 (12.5) | 6 (37.5)  5 (31.3)  0  1 (6.3)  2 (12.5)  0  0  0  0  1 (6.3)  0 | 18 (90.0)  16 (80.0)  10 (50.0)  4 (20.0)  18 (90.0)  15 (75.0)  2 (10.0)  5 (25.0)  3 (15.0)  0  2 (10.0) | 3 (15.0)  4 (20.0)  0  0  2 (10.0)  1 (5.0)  0  1 (5.0)  0  0  0 | 0.492  0.355  0.515  0.081  0.637  0.041  1.000  0.053  1.000  0.078  1.000 |

Supplementary Table 2. Adverse events in the CRT group according to the irradiation dose

\* Fisher's exact test, Any grade

Supplementary Table 3. Details of clinical coarse in cases with recurrence

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Patients ID** | **Treatment group** | **Age** | **Pathological Stage** | **Recurrent site** | **PFS**  **(months)** | **Treatment for recurrence** |
| 192 | esophagectomy | 69 | T1N1M0 | Lung | 18.63 | Salvage surgery |
| 499 | esophagectomy | 59 | T1N0M0 | Lung | 37.29 | Salvage surgery |
| 1012 | esophagectomy | 75 | T1N0M0 | Regional LN | 26.22 | Salvage surgery |
| 226 | esophagectomy | 63 | T1N1M0 | Regional LN | 14.75 | Salvage CRT |
| 280 | esophagectomy | 61 | T1N0M0 | Regional LN | 11.04 | Salvage CRT |
| 485 | esophagectomy | 67 | T2N1M0 | Regional LN | 4.01 | Salvage CRT |
| 511 | esophagectomy | 67 | T1N1M0 | Regional LN | 45.27 | Salvage CRT |
| 1013 | esophagectomy | 75 | T1N1M0 | Regional LN | 29.96 | Salvage CRT |
| 243 | esophagectomy | 61 | T1N0M0 | Lung | 3.75 | Chemotherapy |
| 285 | esophagectomy | 71 | T1N2M0 | Distant LN | 23.92 | Chemotherapy |
| 292 | esophagectomy | 67 | T1N1M0 | Liver, Distant LN | 12.91 | Chemotherapy |
| 491 | esophagectomy | 69 | T1N0M0 | Lung | 36.40 | Chemotherapy |
| 206 | esophagectomy | 70 | T1N0M0 | Distant LN | 9.86 | BSC |
| 212 | esophagectomy | 73 | T3N2M0 | Bone, Peritoneal | 47.74 | BSC |
| 219 | esophagectomy | 62 | T1N0M0 | Bone | 48.30 | BSC |
| 221 | esophagectomy | 79 | T1N1M0 | Liver | 14.85 | BSC |
| 223 | esophagectomy | 53 | T2N1M0 | Bone, Lung, Distant LN | 7.26 | BSC |
| 230 | esophagectomy | 87 | T1N2M0 | Regional LN | 77.96 | BSC |
| 268 | esophagectomy | 71 | T1N0M0 | Bone, Distant LN | 35.55 | BSC |
| 487 | esophagectomy | 80 | T2N2M0 | Lung | 4.21 | BSC |
| 512 | esophagectomy | 59 | T1N1M0 | Bone | 44.88 | BSC |
| 586 | CRT | 58 | - | Local rec | 50.60 | Salvage surgery |
| 525 | CRT | 54 | - | Regional LN | 7.20 | Salvage surgery |
| 585 | CRT | 67 | - | Regional LN | 3.78 | Salvage surgery |
| 517 | CRT | 77 | - | Regional LN | 14.09 | Salvage surgery |
| 578 | CRT | 63 | - | Lung | 7.00 | Salvage surgery |
| 518 | CRT | 61 | - | Distant LN | 60.65 | Chemotherapy |
| 595 | CRT | 61 | - | Lung | 20.30 | Chemotherapy |
| 609 | CRT | 70 | - | Lung | 7.23 | Chemotherapy |
| 537 | CRT | 66 | - | Lung | 10.05 | Chemotherapy |

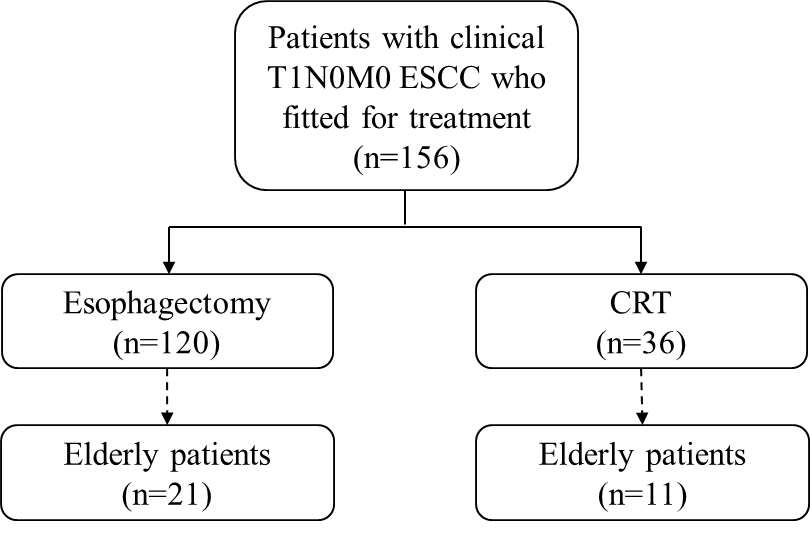
Supplementary Table 4. Univariate and multivariate analysis for PFS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Factor | Univariate analysis | | | Multivariate analysis | | |
|  | OR | 95% CI | P value | OR | 95% CI | P value |
| CRT | 1.284 | 0.644-2.563 | 0.478 | 1.299 | 0.627-2.689 | 0.482 |
| Male | 1.522 | 0.598-3.873 | 0.378 | 1.329 | 0.516-3.427 | 0.556 |
| Age ≥75 | 1.531 | 0.768-3.053 | 0.227 | 1.460 | 0.721-2.955 | 0.293 |
| PS ≥1 | 1.264 | 0.495-3.226 | 0.625 | 1.163 | 0.454-2.976 | 0.753 |
| Clinical tumor depth (SM2/3) | 1.515 | 0.672-3.415 | 0.317 | 2.109 | 0.867-5.129 | 0.100 |
| Circumstance (>3/4) | 1.531 | 0.835-2.807 | 0.169 | 1.356 | 0.569-3.234 | 0.492 |
| Tumor size (>4 cm) | 1.430 | 0.775-2.637 | 0.252 | 1.370 | 0.559-3.358 | 0.491 |

Supplementary Table 5. Univariate and multivariate analysis for OS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Factor | Univariate analysis | | | Multivariate analysis | | |
| F | OR | 95% CI | P value | OR | 95% CI | P value |
| CRT | 1.060 | 0.479-2.342 | 0.886 | 1.007 | 0.438-2.315 | 0.986 |
| Male | 1.585 | 0.559-4.492 | 0.386 | 1.409 | 0.490-4.052 | 0.525 |
| Age ≥75 | 1.572 | 0.735-3.364 | 0.244 | 1.491 | 0.685-3.247 | 0.314 |
| PS ≥1 | 1.265 | 0.444-3.605 | 0.660 | 1.136 | 0.397-3.249 | 0.812 |
| Clinical tumor depth (SM2/3) | 1.461 | 0.605-3.524 | 0.399 | 1.801 | 0.691-4.693 | 0.229 |
| Circumstance (>3/4) | 1.634 | 0.839-3.181 | 0.149 | 1.769 | 0.724-4.322 | 0.210 |
| Tumor size (>4 cm) | 1.286 | 0.653-2.532 | 0.468 | 1.000 | 0.396-2.526 | 0.999 |

Supplementary Figure 1. Consort diagram



Supplementary Figure 2. PFS (A) and OS (B) according to clinical tumor invasion depth

