Supplementary material

Table S1. Toxicity Profile (all grades)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CT Arm(n=162) | | | | | | | | CRT Arm(n=166) | | | | | | | |
|  | Grade1 | | Grade2 | | Grade3 | | Grade4 | | Grade1 | | Grade2 | | Grade3 | | Grade4 | |
| Toxicity | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Nausea | 99 | 61.1 | 27 | 16.7 | 3 | 1.8 | 0 | 0.0 | 107 | 64.4 | 21 | 12.7 | 3 | 1.8 | 0 | 0.0 |
| Vomiting | 43 | 26.5 | 4 | 2.5 | 2 | 1.2 | 0 | 0.0 | 45 | 27.0 | 8 | 5.0 | 4 | 2.4 | 0 | 0.0 |
| Diarrhea | 33 | 20.4 | 8 | 5.0 | 3 | 1.9 | 0 | 0.0 | 42 | 25.3 | 6 | 3.6 | 2 | 1.2 | 0 | 0.0 |
| HFS | 65 | 40.1 | 14 | 8.6 | 2 | 1.2 | 0 | 0.0 | 72 | 43.3 | 12 | 7.2 | 4 | 2.4 | 0 | 0.0 |
| Anemia | 84 | 51.9 | 40 | 24.7 | 2 | 1.2 | 0 | 0.0 | 86 | 51.8 | 53 | 31.9 | 1 | 0.1 | 0 | 0.0 |
| Neutropenia | 10 | 6.1 | 56 | 34.6 | 58 | 35.8 | 0 | 0.0 | 66 | 36.7 | 76 | 45.8 | 4 | 2.4 | 0 | 0.0 |

Abbreviations: HFS, hand-foot syndrome; CT, chemotherapy; CRT, chemoradiotherapy

Table S2. Univariate and Multivariate analyses of prognostic factors for all patients for DFS.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | numbers | univariate | |  | multivariate | |
| HR95%CI | P | HR95%CI | P |
| Group |  |  |  |  |  |  |
| CT | 162 | 1.000 |  |  | 1.000 |  |
| CRT | 166 | 0.745(0.565-0.983) | 0.038 |  | 0.761(0.576-1.006) | 0.056 |
| Gender |  |  |  |  |  |  |
| Male | 239 | 1.000 |  |  |  |  |
| Female | 89 | 1.187(0.878-1.606) | 0.265 |  |  |  |
| Age | 328 | 1.005(0.991-1.019) | 0.500 |  |  |  |
| Smoking history |  |  |  |  |  |  |
| No | 211 | 1.000 |  |  |  |  |
| Yes | 117 | 0.958(0.716-1.281) | 0.771 |  |  |  |
| Alcohol history |  |  |  |  |  |  |
| No | 245 | 1.000 |  |  |  |  |
| Yes | 82 | 0.936(0.680-1.288) | 0.683 |  |  |  |
| Type of gastrectomy |  |  |  |  |  |  |
| BI | 61 | 1.000 |  |  |  |  |
| BII | 180 | 1.122(0.772-1.630) | 0.546 |  |  |  |
| Roux-en-y | 87 | 0.882(0.574-1.357) | 0.568 |  |  |  |
| Tumor Differentiation |  |  |  |  |  |  |
| Poor | 283 | 1.000 |  |  |  |  |
| Medium to well | 45 | 0.794(0.518-1.216) | 0.289 |  |  |  |
| Lauren Type |  |  |  |  |  |  |
| Intestinal | 107 | 1.000 |  |  |  |  |
| Diffused | 167 | 1.160(0.847-1.588) | 0.356 |  |  |  |
| Others | 53 | 1.209(0.789-1.853) | 0.382 |  |  |  |
| N stage |  |  |  |  |  |  |
| 0 | 54 | 1.000 |  |  | 1.000 |  |
| 1 | 44 | 0.549(0.315-0.958) | 0.035 |  | 0.559(0.320-0.975) | 0.040 |
| 2 | 88 | 0.670(0.430-1.044) | 0.077 |  | 0.718(0.452-1.139) | 0.160 |
| 3 | 142 | 1.388(0.950-2.028) | 0.091 |  | 1.229(0.703-2.149) | 0.469 |
| Lymph node ratio ROC |  |  |  |  |  |  |
| 0-50% | 244 | 1.000 |  |  | 1.000 |  |
| 51%-100% | 84 | 2.023(1.506-2.718) | 0.000 |  | 1.489(1.017-2.207) | 0.041 |
| No. of lymph nodes dissected | 328 | 0.995(0.981-1.008) | 0.426 |  |  |  |
| No. of involved lymph nodes | 328 | 1.043(1.02-1.066) | 0.000 |  | 0.980(0.938-1.023) | 0.361 |
| TNM stage |  |  |  |  |  |  |
| II-IIIB | 271 | 1.000 |  |  | 1.000 |  |
| IIIC | 57 | 2.086(1.502-2.896) | 0.000 |  | 1.439(0.940-2.203) | 0.094 |
| HER2 expression |  |  |  |  |  |  |
| Negative | 291 | 1.000 |  |  |  |  |
| Positive | 22 | 1.153(0.681-1.954) | 0.596 |  |  |  |
| Unknown | 15 | 0.922(0.472-1.802) | 0.813 |  |  |  |

HR: the abbreviation of Hazard Ratio.

*CI*: the abbreviation of Confidence Interval.

TableS3. Univariate and Multivariate analyses of prognostic factors for all patients for OS.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | numbers | univariate | |  | multivariate | |
| HR95%CI | P |  | HR95%CI | P |
| Group |  |  |  |  |  |  |
| CT | 162 | 1.000 |  |  | 1.000 |  |
| CRT | 166 | 0.756(0.570-1.003) | 0.052 |  | 0.765(0.575-1.016) | 0.064 |
| Gender |  |  |  |  |  |  |
| Male | 239 | 1.000 |  |  |  |  |
| Female | 89 | 1.186(0.869-1.606) | 0.288 |  |  |  |
| Type of gastrectomy |  |  |  |  |  |  |
| BI | 61 | 1.000 |  |  |  |  |
| BII | 180 | 1.153(0.786-1.692) | 0.467 |  |  |  |
| Roux-en-y | 87 | 0.909(0.586-1.411) | 0.671 |  |  |  |
| Tumor Differentiation |  |  |  |  |  |  |
| Poor | 283 | 1.000 |  |  |  |  |
| Medium to well | 45 | 0.845(0.551-1.296) | 0.440 |  |  |  |
| Lauren Type |  |  |  |  |  |  |
| Intestinal | 107 | 1.000 |  |  |  |  |
| Diffused | 167 | 1.122(0.884-1.682) | 0.226 |  |  |  |
| Others | 53 | 1.236(0.800-1.910) | 0.340 |  |  |  |
| N stage |  |  |  |  |  |  |
| 0 | 54 | 1.000 |  |  | 1.000 |  |
| 1 | 44 | 0.593(0.335-1.051) | 0.073 |  | 0.605(0.341-1.071) | 0.085 |
| 2 | 88 | 0.670(0.424-1.058) | 0.086 |  | 0.707(0.439-1.139) | 0.155 |
| 3 | 142 | 1.563(1.060-2.304) | 0.024 |  | 1.331(0.758-2.339) | 0.320 |
| Lymph node ratio ROC |  |  |  |  |  |  |
| 0-50% | 244 | 1.000 |  |  | 1.000 |  |
| 51%-100% | 84 | 2.131(1.580-2.874) | 0.000 |  | 1.468(0.993-2.172) | 0.055 |
| No. of lymph nodes dissected | 328 | 0.999(0.986-1.012) | 0.886 |  |  |  |
| No. of involved lymph nodes | 328 | 1.049(1.026-1.073) | 0.000 |  | 0.986(0.944-1.030) | 0.552 |
| TNM stage |  |  |  |  |  |  |
| II-IIIB | 49 | 1.000 |  |  | 1.000 |  |
| IIIC | 81 | 2.252(1.615-3.140) | 0.000 |  | 1.468(0.933-2.203) | 0.100 |
| HER2 expression |  |  |  |  |  |  |
| Negative | 291 | 1.000 |  |  |  |  |
| Positive | 22 | 1.237(0.729-2.096) | 0.431 |  |  |  |
| Unknown | 15 | 0.894(0.440-1.818) | 0.758 |  |  |  |

HR: the abbreviation of Hazard Ratio.

*CI*: the abbreviation of Confidence Interval

TableS4. Pattern of Recurrence in all patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CT  （n=162） | CRT  （n=166） | χ2 | *P* |
| LRR | 32(19.8) | 20(12.0) | 3.649 | 0.063 |
| DM | 65(40.1) | 58(34.9) | 0.940 | 0.332 |
| Unknown | 19(11.7) | 24(14.5) | 0.536 | 0.464 |

Abbreviations：CT, chemotherapy；CRT，chemoradiotherapy

Locoregional recurrence：all within radiotherapy field including anastomosis site，abdominal lymph nodes No.1-16.

Distant recurrence：outside radiotherapy field including other lymph nodes，peritoneal seeding，extra-abdominal metastases.

TableS5. Pattern of Recurrence in patients with different staging

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | II-IIIB  （n=271） | IIIC  （n=57） | χ2 | *P* |
| LRR | 43(37.6) | 7(12.3) | 0.469 | 0.494 |
| DM | 87(32.1) | 36(63.2) | 19.378 | 0.000 |
| Unknown | 39(14.4) | 6(10.5) | 0.594 | 0.441 |

Abbreviations：CT, chemotherapy；CRT，chemoradiotherapy

Locoregional recurrence：all within radiotherapy field including anastomosis site，abdominal lymph nodes No.1-16.

Distant recurrence：outside radiotherapy field including other lymph nodes，peritoneal seeding，extra-abdominal metastases.

TableS6. Pattern of Recurrence in patients with different staging

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | II-IIIB | | χ2 | *P* | IIIC | | χ2 | *P* |
| CT  （n=135） | CRT  （n=136） | CT  （n=27） | CRT  （n=30） |
| LRR | 27(20.0) | 16(11.8) | 3.442 | 0.064 | 3(11.1) | 4(13.3) | 0.065 | 0.799 |
| DM | 47(34.8) | 40(29.4) | 0.907 | 0.341 | 18(66.7) | 18(60.0) | 0.271 | 0.602 |
| Unknown | 19(14.1) | 20(14.7) | 0.022 | 0.882 | 2(7.4) | 4(13.3) | 0.530 | 0.467 |

Abbreviations：CT, chemotherapy；CRT，chemoradiotherapy

Locoregional recurrence：all within radiotherapy field including anastomosis site，abdominal lymph nodes No.1-16.

Distant recurrence：outside radiotherapy field including other lymph nodes，peritoneal seeding，extra-abdominal metastases.

Table S7. Baseline of lymph node invasion between TJ-ARK01, ARTIST1 and ARTIST2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | TJ-ARK01 | | ARTIST1 | | ARTIST2 | | | |
| LNs | CT | CRT | XP | XP/XRT/XP | Total | S-1 | SOX | SOXRT |
| Dissected numbers of LNs | 22  (4-69) | 21  (2-67) | 40  (13-142) | 40  (12-84) | 43  (12-101) | 42  (16-99) | 45  (12-95) | 43  (20-101) |
| Positive numbers of LNs | 6  (0-27) | 7  (0-24) | 3  (0-50) | 3  (0-51) | 5  (1-66) | 6  (1-33) | 4  (1-42) | 6  (1-66) |
| Positive LN ratio | 0.28  (0.00-1.00) | 0.35  (0.00-1.00) | - | - | 0.13  (0.01-0.91) | 0.13  (0.01-0.91) | 0.10  (0.02-0.83) | 0.15  (0.01-0.71) |