# Supplementary Online Content

Lin JX, Tang YH, Lin GJ, et al. Association of adjuvant chemotherapy with overall survival among patients with locally advanced gastric cancer after neoadjuvant chemotherapy. *JAMA Netw Open*. 2022;5(4):e225557. doi:10.1001/jamanetworkopen.2022.5557



**This supplementary material has been provided by the authors to give readers additional information about their work.**

**eTable 1.** Specification and emulation of a target trial.

| Protocol | Target trial specification | | Target trial emulation |
|---|---|---|---|
| **Eligibility** | ● Aged 18 years or older | | Same as for the target trial |
| **criteria** | ● Had histologically confirmed, American Joint Committee on Cancer/Union Internationale Contre le Cancer stage II (T2N1, T1N2, T3N0), IIIA (T3N1, T2N2, T4N0), or IIIB (T3N2) gastric adenocarcinoma with no evidence of metastatic disease | | We included patients with locally advanced gastric cancer (cT2-4NxM0) |
| | ● Had D2 surgery and achieved R0 resection | | We included patients who underwent neoadjuvant chemotherapy and curative-intent gastrectomy |
| | ● Had a Karnofsky performance status of 70% or more | | Same as for the target trial |
| | ● No history of chemotherapy, immunotherapy, radiotherapy, or surgery for gastric cancer | | Same as for the target trial |
| | ● Had adequate renal function, hepatic function, and haematological function | | Same as for the target trial |
| **Treatment strategies** | ● Patients assigned to the chemotherapy group receive eight 3-week cycles of oral capecitabine (1000 mg/m² twice daily on days 1-14 of each cycle) plus intravenous oxaliplatin (130 mg/m² on day 1 of each cycle). | | Patients who underwent 1 or more postoperative adjuvant chemotherapy cycles (5-fluorouracil-based) constituted the adjuvant chemotherapy (AC) group |
| | | | We defined the time zero to be 3 months after surgery |
| **Treatment assignment** | ● Patients are randomly assigned to receive adjuvant chemotherapy or surgery alone after surgery, and patients and their physicians will be aware of the assigned treatment strategy | | We classified patients according to the strategy that their data were compatible with at baseline and attempted to emulate randomization by adjusting for baseline confounders |
| **Outcomes** | ● 3-year disease-free survival | | We defined the primary endpoint as 3-year overall survival because data on recurrence was incomplete in the Western cohort |
| **Follow-up** | ● Survival status was assessed every 3 months for the first 2 years after randomisation, every 6 months for the following year, and yearly thereafter. | | Same as for the target trial |

**eTable 2.** Baseline characteristics of study patients stratified by receipt of adjuvant chemotherapy before and after propensity score matching in the Western cohort.

| Characteristics | Overall (n = 109) | Before PSM | | | After PSM | |
|---|---|---|---|---|---|---|
| | | Non-AC (N = 35) | AC (N = 74) | P value | AC (N = 35) | P value |
| Region, No. (%) | | | | .02 | | .99 |
| America | 88 (80.7) | 33 (94.3) | 55 (74.3) | | 34 (97.1) | |
| Europea | 21 (19.3) | 2 (5.7) | 19 (25.7) | | 1 (2.9) | |
| Age, mean (SD), y | 61.0 (12.8) | 62.7 (12.8) | 60.1 (12.7) | .31 | 58.2 (13.0) | .14 |
| Sex, No. (%) | | | | .74 | | .10 |
| Male | 74 (67.9) | 23 (65.7) | 51 (68.9) | | 28 (80.0) | |
| Female | 35 (32.1) | 12 (34.3) | 23 (31.1) | | 7 (20.0) | |
| Body mass index, mean (SD), kg/m$^2$ | 23.9 (4.0) | 23.6 (4.0) | 24.0 (4.0) | .55 | 24.1 (4.0) | .59 |
| ASA score, No. (%) | | | | .75 | | .16 |
| 1 | 56 (51.4) | 18 (51.4) | 38 (51.4) | | 24 (68.6) | |
| 2 | 35 (32.1) | 10 (28.6) | 25 (33.8) | | 9 (25.7) | |
| 3 | 18 (16.5) | 7 (20.0) | 11 (14.9) | | 2 (5.7) | |
| Histologic type, No. (%) | | | | .004 | | .40 |
| Differentiated | 43 (39.4) | 7 (20.0) | 36 (48.6) | | 10 (28.6) | |
| Undifferentiated | 66 (60.6) | 28 (80.0) | 38 (51.4) | | 25 (71.4) | |
| Type of gastrectomy, No. (%) | | | | .64 | | .45 |
| Total | 65 (59.6) | 22 (62.9) | 43 (58.1) | | 25 (71.4) | |
| Subtotal | 44 (40.4) | 13 (37.1) | 31 (41.9) | | 10 (28.6) | |
| Lymph node dissection, No. (%) | | | | .17 | | .38 |
| D1 | 20 (18.3) | 9 (25.7) | 11 (14.9) | | 6 (17.1) | |
| D2 | 89 (81.7) | 26 (74.3) | 63 (85.1) | | 29 (82.9) | |
| Tumor location, No. (%) | | | | .38 | | .87 |
| Lower 1/3 | 30 (27.5) | 9 (25.7) | 21 (28.4) | | 7 (20.0) | |
| Middle 1/3 | 39 (35.8) | 10 (28.6) | 29 (39.2) | | 10 (28.6) | |
| Upper 1/3 | 21 (28.4) | 12 (34.3) | 21 (28.4) | | 15 (42.9) | |
| Mixed | 3 (4.1) | 4 (11.4) | 3 (4.1) | | 3 (8.6) | |
| ypT stage, No. (%) | | | | .10 | | .64 |
| T0 | 12 (11.0) | 1 (2.9) | 11 (14.9) | | 2 (5.7) | |
| T1 | 14 (12.8) | 5 (14.3) | 9 (12.2) | | 8 (22.9) | |
| T2 | 7 (6.4) | 0 (0.0) | 7 (9.5) | | 1 (2.9) | |
| T3 | 48 (44.0) | 19 (54.3) | 29 (39.2) | | 15 (42.9) | |
| T4 | 28 (25.7) | 10 (28.6) | 18 (24.3) | | 9 (25.7) | |
| ypN stage, No. (%) | | | | .87 | | .94 |
| N0 | 43 (39.4) | 12 (34.3) | 31 (41.9) | | 12 (34.3) | |
| N1 | 22 (20.2) | 7 (20.0) | 15 (20.3) | | 6 (17.1) | |
| N2 | 19 (17.4) | 7 (20.0) | 12 (16.2) | | 9 (25.7) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| N3 | 25 (22.9) | 9 (25.7) | 16 (21.6) | | 8 (22.9) | |
| Lymph node metastasis, median (IQR) | 2 (0-5) | 2 (0-7) | 1 (0-4) | .75 | 2 (0-6) | .84 |
| Lymph node harvested, median (IQR) | 29 (20-38) | 29 (15-38) | 29 (20-38) | .66 | 26 (20-33) | .87 |
| Lymph node ratio, median (IQR) | 0.06 (0-0.26) | 0.10 (0-0.29) | 0.04 (0-0.23) | .68 | 0.09 (0-0.33) | .80 |
| R status, No. (%) | | | | .66 | | .99 |
| R0 | 104 (95.4) | 33 (94.3) | 71 (95.9) | | 33 (94.3) | |
| R1 | 5 (4.6) | 2 (5.7) | 3 (4.1) | | 2 (5.7) | |
| Postoperative complication, No. (%) | | | | .03 | | .09 |
| No | 88 (80.7) | 24 (68.6) | 64 (86.5) | | 30 (85.7) | |
| Yes | 21 (19.3) | 11 (31.4) | 10 (13.5) | | 5 (14.3) | |

**Abbreviations:** AC: Adjuvant chemotherapy; PSM: Propensity score match; ASA: American Society of Anesthesiologists; SD: standard deviation; IQR: Interquartile range.

**eTable 3.** Univariable and multivariable analyses for overall survival, disease-free survival, and disease-specific survival in the matched Eastern cohort.

| Variables | Overall Survival | | | | Disease-free Survival | | Disease-specific survival | |
|---|---|---|---|---|---|---|---|---|
| | Univariate analysis | | Multivariate analysis | | Multivariate analysis | | Multivariate analysis | |
| | Hazard Ratio (95%CI) | P value | Hazard Ratio (95%CI) | P value[b] | Hazard Ratio (95%CI) | P value[b] | Hazard Ratio (95%CI) | P value[b] |
| Age (y) | 1.000 (0.982-1.018) | .99 | | | | | | |
| Sex | | .87 | | | | | | |
| Male | Reference | | | | | | | |
| Female | 0.967 (0.639-1.463) | | | | | | | |
| Comorbidities | | .24 | | | | | | |
| 0-1 | Reference | | | | | | | |
| ≥2 | 1.167 (0.901-1.512) | | | | | | | |
| Lauren classification | | .02 | | .78 | | .95 | | .97 |
| Intestinal | Reference | | Reference | | Reference | | Reference | |
| Diffuse | 1.576 (1.089-2.279) | | 1.155 (0.780-1.709) | | 1.040 (0.651-1.662) | | 1.072 (0.679-1.692) | |
| Tumor Location | | .17 | | | | | | |
| Lower 1/3 | Reference | | | | | | | |
| Middle 1/3 | 1.918 (1.103-3.336) | | | | | | | |
| Upper 1/3 | 1.328 (0.747-2.361) | | | | | | | |
| Mixed | 2.636 (1.213-5.726) | | | | | | | |
| ypT stage | | <.001 | | .06 | | .08 | | .07 |
| T0-1 | Reference | | Reference | | Reference | | Reference | |
| T2 | 6.159 (1.536-24.699) | | 4.940 (1.208-20.195) | | 2.958 (0.693-12.619) | | 2.977 (0.707-12.538) | |
| T3 | 6.241 (1.434-27.162) | | 4.525 (1.000-20.467) | | 4.312 (0.909-20.452) | | 3.604 (0.762-17.043) | |
| T4 | 10.634 (2.630-43.005) | | 6.091 (1.437-25.828) | | 4.457 (0.986-20.156) | | 4.483 (0.996-20.170) | |
| ypN stage | | <.001 | | .57 | | .10 | | .13 |
| N0 | Reference | | Reference | | Reference | | Reference | |
| N1 | 0.993 (0.516-1.909) | | 0.729 (0.383-1.389) | | 1.171 (0.554-2.478) | | 0.773 (0.371-1.614) | |
| N2 | 2.105 (1.299-3.412) | | 1.280 (0.689-2.379) | | 1.926 (0.973-3.813) | | 1.764 (0.879-3.540) | |
| N3 | 4.145 (2.605-6.593) | | 1.240 (0.547-2.809) | | 1.907 (0.759-4.787) | | 1.844 (0.719-4.734) | |
| Lymph node ratio | 19.086 (10.132-35.952) | <.001 | 9.880 (2.850-34.245) | .007 | 12.038 (3.340-43.380) | .007 | 10.198 (2.486-41.823) | .02 |
| Lymph node harvested | | .68 | | | | | | |
| <15 | Reference | | | | | | | |
| ≥15 | 0.894 (0.520-1.535) | | | | | | | |
| Lymphovascular invasion | | <.001 | | .85 | | .66 | | .75 |
| No | Reference | | Reference | | Reference | | Reference | |
| Yes | 1.788 (1.272-2.513) | | 1.091 (0.731-1.628) | | 1.150 (0.762-1.736) | | 1.382 (0.722-1.794) | |
| Neural invasion | | .04 | | .97 | | .95 | | .95 |
| No | Reference | | Reference | | Reference | | Reference | |
| Yes | 1.463 (1.020-2.097) | | 0.980 (0.671-1.431) | | 0.988 (0.668-1.462) | | 0.940 (0.623-1.419) | |
| R status | | .005 | | .66 | | .95 | | .56 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| R0 | Reference | | Reference | | Reference | | Reference | |
| R1 | 2.303 (1.295-4.096) | | 1.290 (0.694-2.399) | | 1.009 (0.554-1.841) | | 1.356 (0.686-2.681) | |
| Tumor regression[a] | | .08 | | | | | | |
| <50% | Reference | | | | | | | |
| ≥50% | 0.710 (0.487-1.036) | | | | | | | |
| Postoperative complication | | .79 | | | | | | |
| No | Reference | | | | | | | |
| Yes | 0.952 (0.660-1.372) | | | | | | | |
| Adjuvant chemotherapy | | .01 | | .007 | | .03 | | .007 |
| No | Reference | | Reference | | Reference | | Reference | |
| Yes | 0.645 (0.455-0.915) | | 0.565 (0.402-0.794) | | 0.582 (0.407-0.831) | | 0.550 (0.384-0.789) | |

[a] 37 patients with missed data were excluded from survival analysis.

[b] indicates FDR (false discovery rate) adjusted P value.

**Abbreviations:** CI: Confidence interval.

**eTable 4.** Univariable and multivariable analyses for overall survival, disease-free survival, and disease-specific survival in patients with a lymph node ratio <9% in the matched Eastern cohort.

| Variables | Overall Survival | | | | Disease-free Survival | | Disease-specific survival | |
|---|---|---|---|---|---|---|---|---|
| | Univariate analysis | | Multivariate analysis | | Multivariate analysis | | Multivariate analysis | |
| | Hazard Ratio (95%CI) | P value | Hazard Ratio (95%CI) | P value[b] | Hazard Ratio (95%CI) | P value[b] | Hazard Ratio (95%CI) | P value[b] |
| Age (y) | 1.011 (0.977-1.046) | .54 | | | | | | |
| Sex | | .57 | | | | | | |
| Male | Reference | | | | | | | |
| Female | 0.791 (0.356-1.758) | | | | | | | |
| Comorbidities | | .42 | | | | | | |
| 0-1 | Reference | | | | | | | |
| ≥2 | 1.168 (0.804-1.697) | | | | | | | |
| Lauren classification | | .02 | | .07 | | .42 | | .16 |
| Intestinal | Reference | | Reference | | Reference | | Reference | |
| Diffuse | 2.110 (1.137-3.916) | | 2.113 (1.125-3.971) | | 1.599 (0.756-3.382) | | 2.116 (0.954-4.691) | |
| Tumor Location | | .47 | | | | | | |
| Lower 1/3 | Reference | | | | | | | |
| Middle 1/3 | 2.418 (0.945-6.182) | | | | | | | |
| Upper 1/3 | 0.900 (0.331-2.446) | | | | | | | |
| Mixed | 3.809 (1.353-10.723) | | | | | | | |
| ypT stage | | .03 | | .09 | | .16 | | .16 |
| T0-1 | Reference | | Reference | | Reference | | Reference | |
| T2-4 | 8.629 (1.251-59.500) | | 9.246 (1.315-65.029) | | 6.917 (0.927-51.612) | | 6.575 (0.905-47.746) | |
| ypN stage | | .72 | | | | | | |
| N0 | Reference | | | | | | | |
| N+ | 0.873 (0.419-1.823) | | | | | | | |
| Lymphovascular invasion | | .97 | | | | | | |
| No | Reference | | | | | | | |
| Yes | 1.012 (0.504-2.032) | | | | | | | |
| Neural invasion | | .12 | | | | | | |
| No | Reference | | | | | | | |
| Yes | 1.621 (0.883-2.988) | | | | | | | |
| R status | | .47 | | | | | | |
| R0 | Reference | | | | | | | |
| R1 | 1.633 (0.434-6.138) | | | | | | | |
| Tumor regression[a] | | .54 | | | | | | |
| <50% | Reference | | | | | | | |
| ≥50% | 0.790 (0.372-1.676) | | | | | | | |
| Postoperative complication | | .02 | | .07 | | .06 | | .34 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Reference | | Reference | | Reference | | Reference | |
| Yes | 2.129 (1.140-3.974) | | 2.064 (1.122-3.799) | | 2.603 (1.248-5.429) | | 1.752 (0.812-3.779) | |
| Adjuvant chemotherapy | | .29 | | .61 | | .88 | | .86 |
| No | Reference | | Reference | | Reference | | Reference | |
| Yes | 0.721 (0.392-1.326) | | 0.768 (0.413-1.428) | | 0.878 (0.404-1.909) | | 0.865 (0.401-1.867) | |

[a] 17 patients with missed data were excluded from survival analysis.

[b] indicates FDR (false discovery rate) adjusted P value.

**Abbreviations:** CI: Confidence interval.

**eTable 5.** Univariable analyses for overall survival in the matched Western cohort.

| Variables | LNR <9% | | LNR ≥9% | |
|---|---|---|---|---|
| | Hazard Ratio (95% CI) | P value | Hazard Ratio (95% CI) | P value |
| Age (y) | 1.022 (0.972-1.074) | .40 | 0.977 (0.949-1.006) | .13 |
| Sex | | .11 | | .11 |
| Male | Reference | | Reference | |
| Female | 2.402 (0.817-7.062) | | 2.121 (0.849-5.346) | |
| Body mass index (kg/m$^2$) | 1.018 (0.900-1.151) | .77 | 0.951 (0.873-1.037) | .26 |
| ASA score | | .87 | | .87 |
| 1 | Reference | | Reference | |
| ≥2 | 0.916 (0.323-2.595) | | 1.075 (0.461-2.506) | |
| Histologic type | | .16 | | .66 |
| Differentiated | Reference | | Reference | |
| Undifferentiated | 4.558 (0.543-38.275) | | 1.278 (0.432-3.781) | |
| Lymph node dissection | | .06 | | .61 |
| D1 | Reference | | Reference | |
| D2 | 0.346 (0.115-1.043) | | 1.206 (0.588-2.471) | |
| Tumor Location | | .75 | | .91 |
| Lower 1/3 | Reference | | Reference | |
| Middle 1/3 | 1.441 (0.543-3.828) | | 0.670 (0.188-2.391) | |
| Upper 1/3 | 0.782 (0.188-3.257) | | 0.614 (0.150-2.509) | |
| Mixed | 34.832 (5.051-240.223) | | 1.369 (0.292-6.413) | |
| ypT stage | | .20 | | .001 |
| T0-2 | Reference | | Reference | |
| T3 | 2.849 (0.838-9.685) | | 9.802 (1.618-59.380) | |
| T4 | 1.351 (0.110-16.623) | | 11.554 (1.883-70.890) | |
| Postoperative complication | | .83 | | .90 |
| No | Reference | | Reference | |
| Yes | 0.866 (0.239-3.136) | | 1.060 (0.434-2.586) | |
| Adjuvant chemotherapy | | .91 | | .02 |
| No | Reference | | Reference | |
| Yes | 0.950 (0.380-2.377) | | 0.429 (0.207-0.891) | |

**Abbreviations:** LNR: Lymph node ratio; ASA: American Society of Anesthesiologists; CI: Confidence interval.

**eTable 6.** Substratified analysis for overall survival in patients with a lymph node ratio <9% in the matched Eastern cohort.

| Variables | Subgroup | Hazard Ratio (95% CI) | P value | FDR adjusted P for interaction |
|---|---|---|---|---|
| Age, yrs | <60 | 0.656 (0.284-1.515) | .32 | .97 |
| | ≥60 | 0.786 (0.346-1.789) | .57 | |
| Sex | Male | 0.925 (0.476-1.800) | .82 | .31 |
| | Female | 0.275 (0.069-1.097) | .07 | |
| Comorbidities | 0-1 | 0.624 (0.326-1.191) | .15 | .85 |
| | ≥2 | 1.515 (0.276-8.325) | .63 | |
| Lauren classification | Intestinal | 0.351 (0.099-1.247) | .11 | .92 |
| | Diffuse | 1.077 (0.520-2.228) | .84 | |
| Tumor Location | Lower 1/3 | 3.185 (0.494-20.538) | .22 | .26 |
| | Middle 1/3 | 0.909 (0.376-2.198) | .83 | |
| | Upper 1/3 | 0.646 (0.186-2.239) | .49 | |
| | Mixed | 0.185 (0.027-1.258) | .08 | |
| ypT stage | T0-1 | NE | NE | .78 |
| | T2-4 | 0.776 (0.422-1.427) | .42 | |
| ypN stage | N0 | 0.793 (0.381-1.653) | .54 | .61 |
| | N+ | 0.571 (0.175-1.864) | .35 | |
| Lymph node harvested | <15 | 0.663 (0.144-3.062) | .60 | .97 |
| | ≥15 | 0.731 (0.380-1.406) | .35 | |
| Lymphovascular invasion | No | 0.789 (0.371-1.676) | .54 | .66 |
| | Yes | 0.610 (0.200-1.864) | .39 | |
| Neural invasion | No | 1.056 (0.462-2.416) | .90 | .93 |
| | Yes | 0.458 (0.179-1.175) | .10 | |
| R status | R0 | 0.646 (0.345-1.211) | .17 | .16 |
| | R1 | NE | NE | |
| Tumor regression[a] | <50% | 0.495 (0.112-2.181) | .35 | .93 |
| | ≥50% | 1.060 (0.465-2.414) | .89 | |
| Postoperative complication | No | 0.563 (0.262-1.210) | .14 | .13 |
| | Yes | 1.153 (0.394-3.371) | .80 | |

[a] 17 patients with missed data were excluded from survival analysis.

**Abbreviations:** CI: Confidence interval; FDR: False discovery rate; NE: Not evaluable.

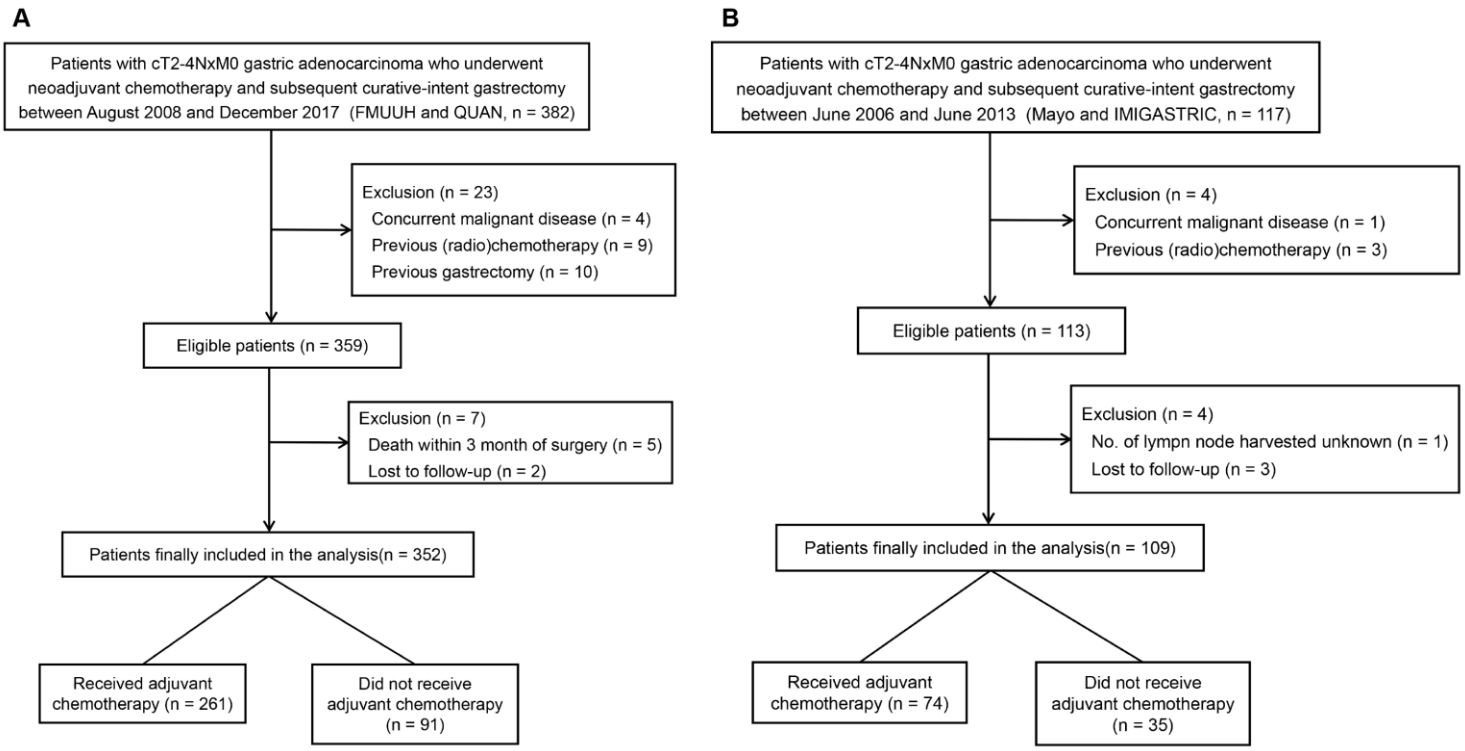
**eTable 7.** Substratified analysis for overall survival in patients with a lymph node ratio ≥9% in the matched Eastern cohort.

| Variables | Subgroup | Hazard Ratio (95% CI) | P value | FDR adjusted P for interaction |
|---|---|---|---|---|
| Age, yrs | <60 | 0.514 (0.255-1.036) | .06 | .12 |
| | ≥60 | 0.407 (0.228-0.725) | .002 | |
| Sex | Male | 0.437 (0.267-0.716) | .001 | .93 |
| | Female | 0.513 (0.232-1.135) | .10 | |
| Comorbidities | 0-1 | 0.420 (0.257-0.688) | <.001 | .61 |
| | ≥2 | 0.787 (0.302-2.048) | .62 | |
| Lauren classification | Intestinal | 0.452 (0.192-1.065) | .07 | .85 |
| | Diffuse | 0.442 (0.26-0.751) | .003 | |
| Tumor Location | Lower 1/3 | 0.406 (0.137-1.204) | .10 | .65 |
| | Middle 1/3 | 0.455 (0.207-1.000) | .05 | |
| | Upper 1/3 | 0.374 (0.196-0.713) | .003 | |
| | Mixed | NE | NE | |
| ypT stage | T1-2 | 1.070 (0.383-2.995) | .90 | .03 |
| | T3 | 0.177 (0.078-0.402) | <.001 | |
| | T4 | 0.492 (0.276-0.879) | .02 | |
| ypN stage | N1 | 0.511 (0.117-2.224) | .37 | .23 |
| | N2 | 0.363 (0.191-0.689) | .002 | |
| | N3 | 0.589 (0.330-1.053) | .07 | |
| Lymph node harvested | <15 | 0.326 (0.070-1.513) | .15 | .47 |
| | ≥15 | 0.466 (0.295-0.735) | .001 | |
| Lymphovascular invasion | No | 0.554 (0.271-1.134) | .11 | .73 |
| | Yes | 0.369 (0.207-0.659) | <.001 | |
| Neural invasion | No | 0.388 (0.217-0.694) | .001 | .79 |
| | Yes | 0.585 (0.298-1.147) | .12 | |
| R status | R0 | 0.448 (0.284-0.706) | <.001 | .16 |
| | R1 | 0.579 (0.155-2.158) | .42 | |
| Tumor regression[a] | <50% | 0.413 (0.199-0.857) | .02 | .34 |
| | ≥50% | 0.532 (0.300-0.941) | .03 | |
| Postoperative complication | No | 0.426 (0.252-0.720) | .001 | .19 |
| | Yes | 0.521 (0.235-1.155) | .11 | |

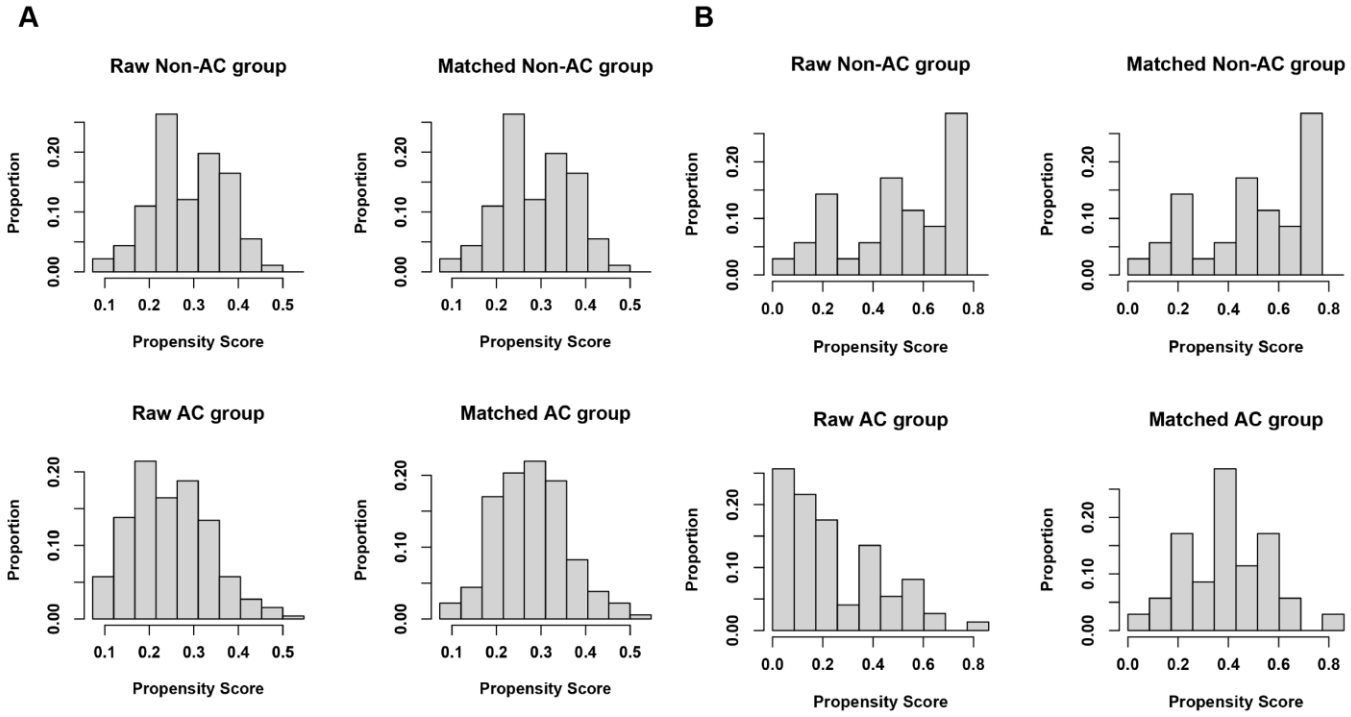
[a] 20 patients with missed data were excluded from survival analysis.

**Abbreviations:** CI: Confidence interval; FDR: False discovery rate; NE: Not evaluable.

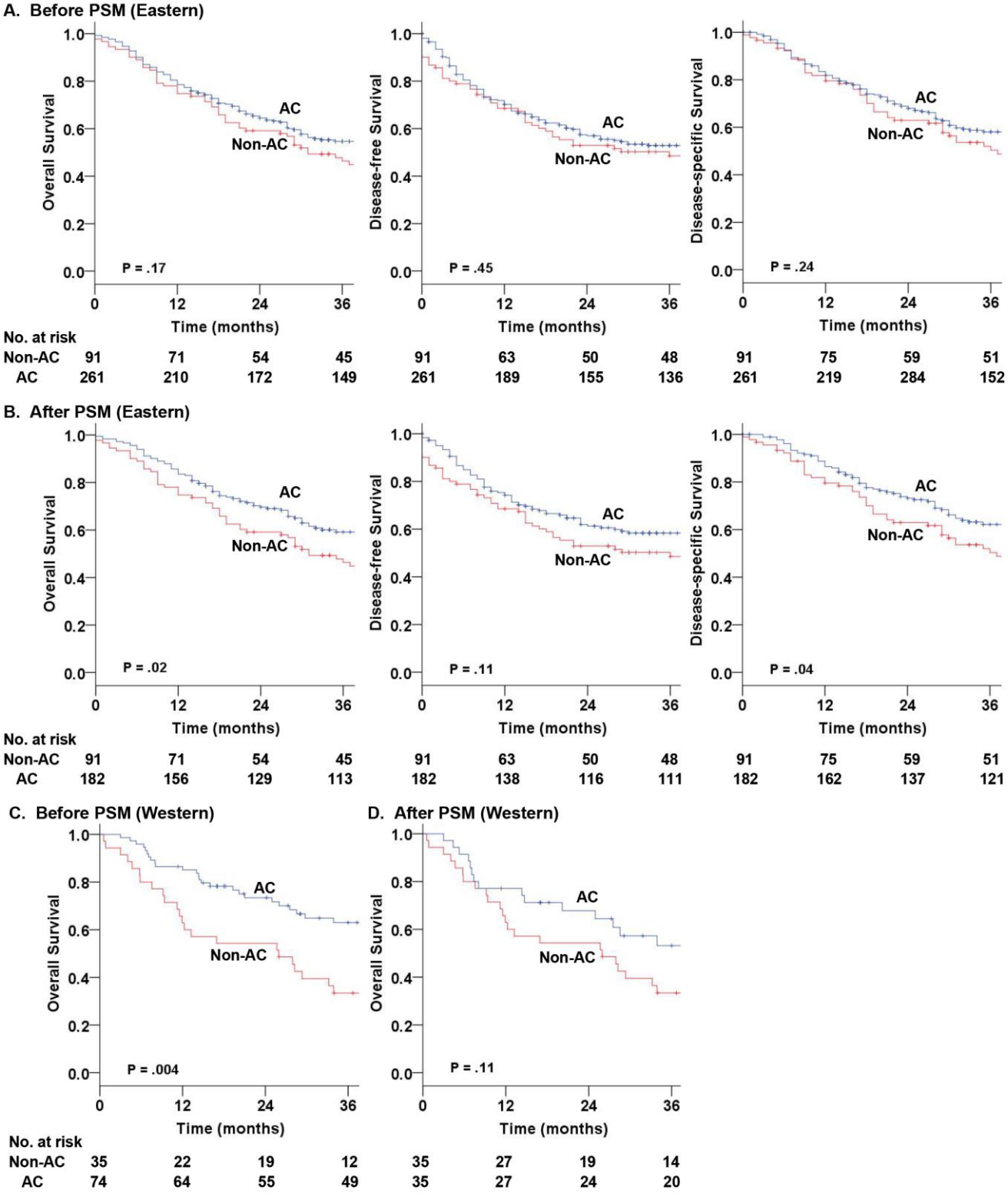
**eFigure 1.** Diagram of study population in the Eastern (A) and Western (B) cohorts.



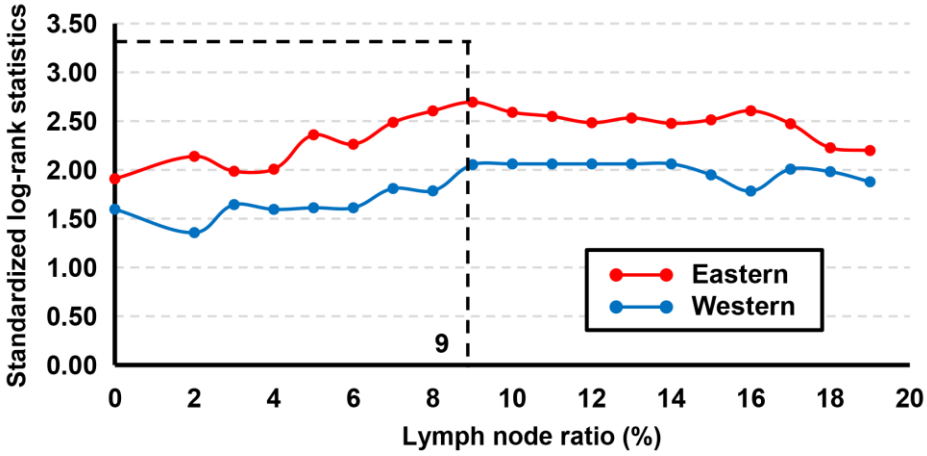
**eFigure 2.** The distribution of propensity scores before and after matching in the Eastern (A) and Western (B) cohorts.



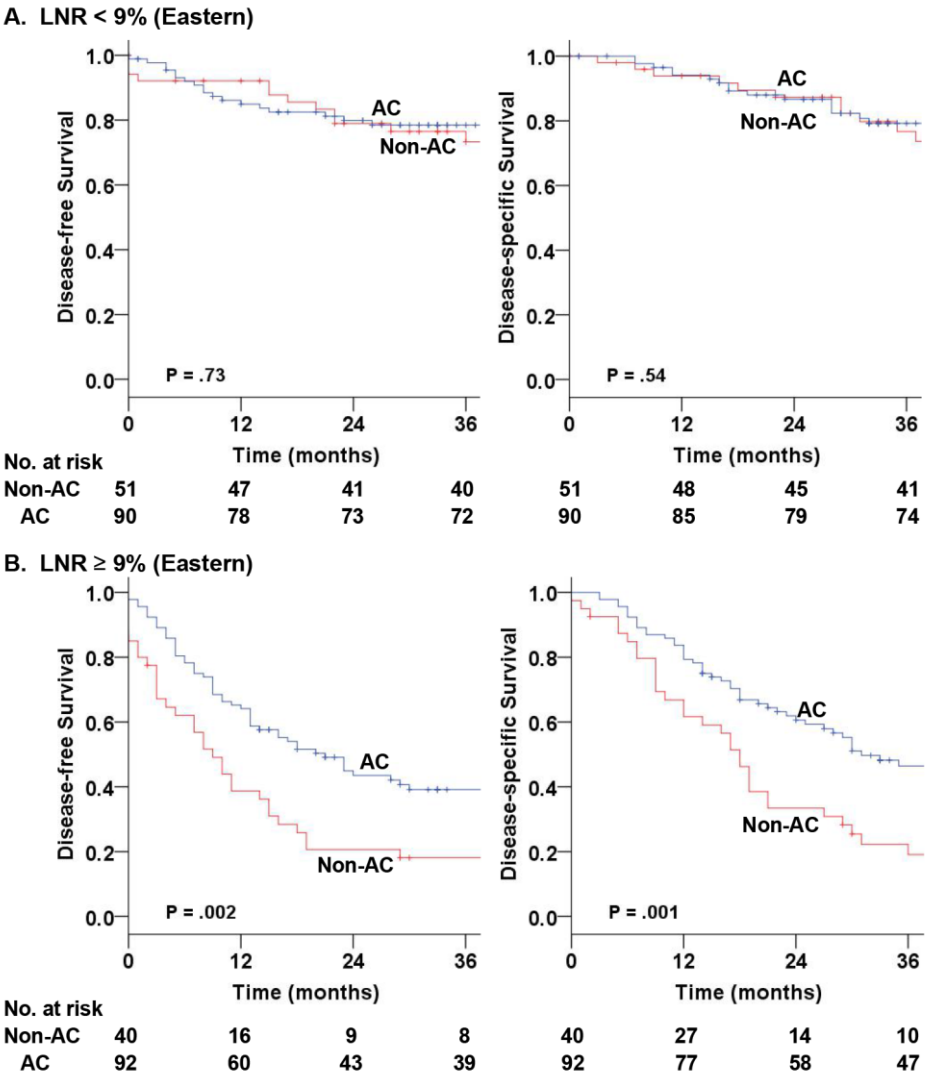
**eFigure 3.** Kaplan-Meier curves for overall survival (disease-free survival, disease-specific survival) before and after propensity score matching in the Eastern and Western cohorts. We calculated the P values using the log-rank test. The time zero was set as 3 months after surgery.



**eFigure 4.** Adjuvant chemotherapy benefit defined by maximally selected log-rank statistics (Y-axis) in patients with a lymph node ratio above the certain value (X-axis) in the matched Eastern and Western cohorts.



**eFigure 5.** Kaplan-Meier curves for disease-free survival and disease-specific survival stratified by lymph node ratio in the matched Eastern cohort. The time zero was set as 3 months after surgery.



**eFigure 6.** Landmark analysis of overall survival, disease-free survival, and disease-specific survival stratified by adjuvant chemotherapy cycles in patients with a lymph node ratio ≥9% in the matched Eastern cohort. Patients who experienced death or disease recurrence within 6 months, 9 months after surgery were excluded from the 6-month (A) and 9-month (B) landmark analysis, with sample sizes of 108 and 98, respectively. The time zero was set as 6 months (A) and 9 months (B) after surgery.