

Supplemental Table 1. Univariate and Multivariate Analysis of Factors Related to Overall Survival in 48 FDG-PET Responders

| Variable | Univariate | Multivariate | |
|-----------------------------------------------------------|------------|-----------------------|---------|
| | P-value | Hazard ratio (95% CI) | P-value |
| Age (years) | | | |
| <61 vs. ≥61 | 0.002 | 4.793 (1.633–14.063) | 0.004 |
| Sex | | | |
| Male vs. female | 0.572 | | |
| Ethnicity | | | |
| Caucasian vs. others | 0.188 | | |
| ECOG performance status | | | |
| 0 vs. 1–2 | 0.299 | | |
| Weight loss | | | |
| <10% vs. ≥10% | 0.499 | | |
| Histologic subtype | | | |
| Signet ring cell vs. none | 0.287 | | |
| Histologic grade | | | |
| G3 vs. G1/G2 | 0.436 | | |
| Tumor location | | | |
| Upper/middle vs. distal/GEJ | 0.016 | | |
| Primary tumor length | | | |
| ≤6 cm vs. >6 cm | 0.436 | | |
| Clinical T stage | | | |
| T1-2 vs. T3-4 | 0.750 | | |
| Clinical N stage | | | |
| N0 vs. N1-3 | 0.278 | | |
| Induction chemotherapy regimen | | | |
| Fluoropyrimidine/platinum/taxane vs. two-drug combination | 0.396 | | |
| No. of induction chemotherapy cycles | | | |
| ≤2 vs. >2 | 0.219 | | |
| Radiotherapy modality | | | |
| 3DCRT vs. IMRT vs. Proton therapy | 0.675 | | |
| Surgery | | | |
| Yes (TMT) vs. no (BMT) | 0.201 | | |

Abbreviations: CI, confidence interval; ECOG, Eastern Cooperative Oncology Group; GEJ, gastroesophageal junction; 3DCRT, three-dimensional conformal radiation therapy; IMRT, intensity-modulated radiation therapy; TMT, trimodality therapy; BMT, bimodality therapy.

Supplemental Table 2. Pretreatment Characteristics for the 48 FDG-PET Responders by Therapy Type

| Characteristic | All Patients | | Before Matching | | After Propensity Score Matching | | |
|-------------------------|--------------|--------------|-----------------|---------|---------------------------------|-----------------|---------|
| | n=48 (%) | BMT n=23 (%) | TMT n=25 (%) | P Value | BMT n=16 (%) | TMT n=16 (%) | P Value |
| Age (years) | | | | 0.067 | | | 1.000 |
| <61 | 19 (39.6) | 6 (26.1) | 13 (52.0) | | 4 (25.0) | 4 (25.0) | |
| ≥61 | 29 (60.4) | 17 (73.9) | 12 (48.0) | | 12 (75.0) | 12 (75.0) | |
| Sex | | | | 0.102 | | | / |
| Male | 45 (93.8) | 20 (87.0) | 25 (100.0) | | 16 (100.0) | 16 (100.0) | |
| Female | 3 (6.3) | 3 (13.0) | 0 (0.0) | | 0 (0.0) | 0 (0.0) | |
| Ethnicity | | | | 1.000 | | | 0.484 |
| Caucasian | 43 (89.6) | 21 (91.3) | 22 (88.0) | | 14 (87.5) | 16 (100.0) | |
| Others | 5 (10.4) | 2 (8.7) | 3 (12.0) | | 2 (12.5) | 0 (0.0) | |
| ECOG performance status | | | | 0.514 | | | 0.719 |
| 0 | 19 (39.6) | 8 (34.8) | 11 (44.0) | | 6 (37.5) | 7 (43.8) | |
| 1–2 | 29 (60.4) | 15 (65.2) | 14 (56.0) | | 10 (62.5) | 9 (56.3) | |
| Weight loss | | | | 0.613 | | | 1.000 |
| <10% | 33 (68.8) | 15 (65.2) | 18 (72.0) | | 12 (75.0) | 11 (68.8) | |
| ≥10% | 15 (31.3) | 8 (34.8) | 7 (28.0) | | 4 (25.0) | 5 (31.3) | |
| Histologic subtype | | | | 0.407 | | | 1.000 |
| Signet ring cell | 6 (12.5) | 4 (17.4) | 2 (8.0) | | 2 (12.5) | 2 (12.5) | |
| None | 42 (87.5) | 19 (82.6) | 23 (92.0) | | 14 (87.5) | 14 (87.5) | |
| Histologic grade | | | | 0.823 | | | 0.719 |
| G1-2 | 18 (37.5) | 9 (39.1) | 9 (36.0) | | 6 (37.5) | 7 (43.8) | |
| G3 | 30 (62.5) | 14 (60.9) | 16 (64.0) | | 10 (62.5) | 9 (56.3) | |
| Tumor location | | | | 0.479 | | | 1.000 |
| Upper/middle | 1 (2.1) | 1 (4.3) | 0 (0.0) | | 1 (6.3) | 0 (0.0) | |
| Distal/GEJ | 47 (97.9) | 22 (95.7) | 25 (100.0) | | 15 (93.8) | 16 (100.0) | |
| Primary tumor length | | | | 0.404 | | | 1.000 |
| ≤6 cm | 36 (75.0) | 16 (69.6) | 20 (80.0) | | 13 (81.3) | 13 (81.3) | |
| >6 cm | 12 (25.0) | 7 (30.4) | 5 (20.0) | | 3 (18.8) | 3 (18.8) | |
| Clinical T stage | | | | 0.338 | | | 1.000 |
| T1-2 | 4 (8.3) | 3 (13.0) | 1 (4.0) | | 2 (12.5) | 1 (6.3) | |
| T3-4 | 44 (91.7) | 20 (87.0) | 24 (96.0) | | 14 (87.5) | 15 (93.8) | |
| Clinical N stage | | | | 0.868 | | | 1.000 |
| N0 | 12 (25.0) | 6 (26.1) | 6 (24.0) | | 3 (18.8) | 3 (18.8) | |
| N1-3 | 36 (75.0) | 17 (73.9) | 19 (76.0) | | 13 (81.3) | 13 (81.3) | |

Abbreviations: BMT, bimodality therapy; TMT, trimodality therapy; ECOG, Eastern Cooperative Oncology Group; GEJ, gastroesophageal junction.

Supplemental Table 3. Univariate and Multivariate Analysis of Factors Related to Overall Survival in 172 FDG-PET Non-Responders

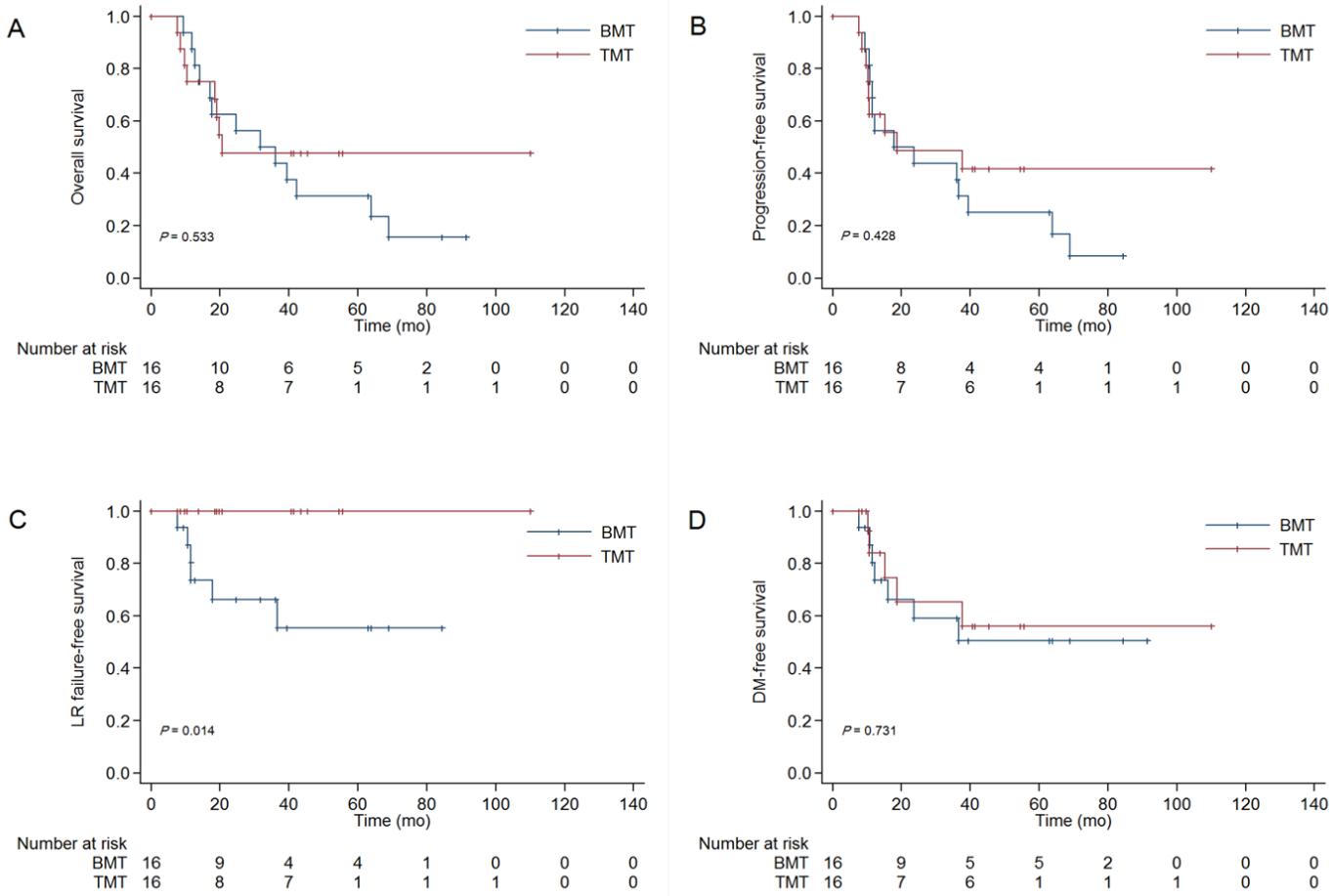
| Variable | Univariate | Multivariate | |
|-----------------------------------------------------------|------------|-----------------------|---------|
| | P-value | Hazard ratio (95% CI) | P-value |
| Age (years) | | | |
| <61 vs. ≥61 | 0.075 | | |
| Sex | | | |
| Male vs. female | 0.087 | 0.383 (0.166–0.884) | 0.024 |
| Ethnicity | | | |
| Caucasian vs. others | 0.831 | | |
| ECOG performance status | | | |
| 0 vs. 1–2 | 0.411 | | |
| Weight loss | | | |
| <10% vs. ≥10% | 0.650 | | |
| Histologic subtype | | | |
| Signet ring cell vs. none | 0.152 | | |
| Histologic grade | | | |
| G3 vs. G1/G2 | <0.001 | | |
| Tumor location | | | |
| Upper/middle vs. distal/GEJ | 0.923 | | |
| Primary tumor length | | | |
| ≤6 cm vs. >6 cm | 0.888 | | |
| Clinical T stage | | | |
| T1-2 vs. T3-4 | 0.411 | | |
| Clinical N stage | | | |
| N0 vs. N1-3 | 0.068 | | |
| Induction chemotherapy regimen | | | |
| Fluoropyrimidine/platinum/taxane vs. two-drug combination | 0.533 | | |
| No. of induction chemotherapy | | | |
| ≤2 vs. >2 | 0.280 | | |
| Radiotherapy modality | | | |
| 3DCRT vs. IMRT vs. Proton therapy | 0.646 | | |
| Surgery | | | |
| Yes (TMT) vs. no (BMT) | <0.001 | 2.895 (1.940–4.321) | <0.001 |

Abbreviations: CI, confidence interval; ECOG, Eastern Cooperative Oncology Group; GEJ, gastroesophageal junction; 3DCRT, three-dimensional conformal radiation therapy; IMRT, intensity-modulated radiation therapy; TMT, trimodality therapy; BMT, bimodality therapy.

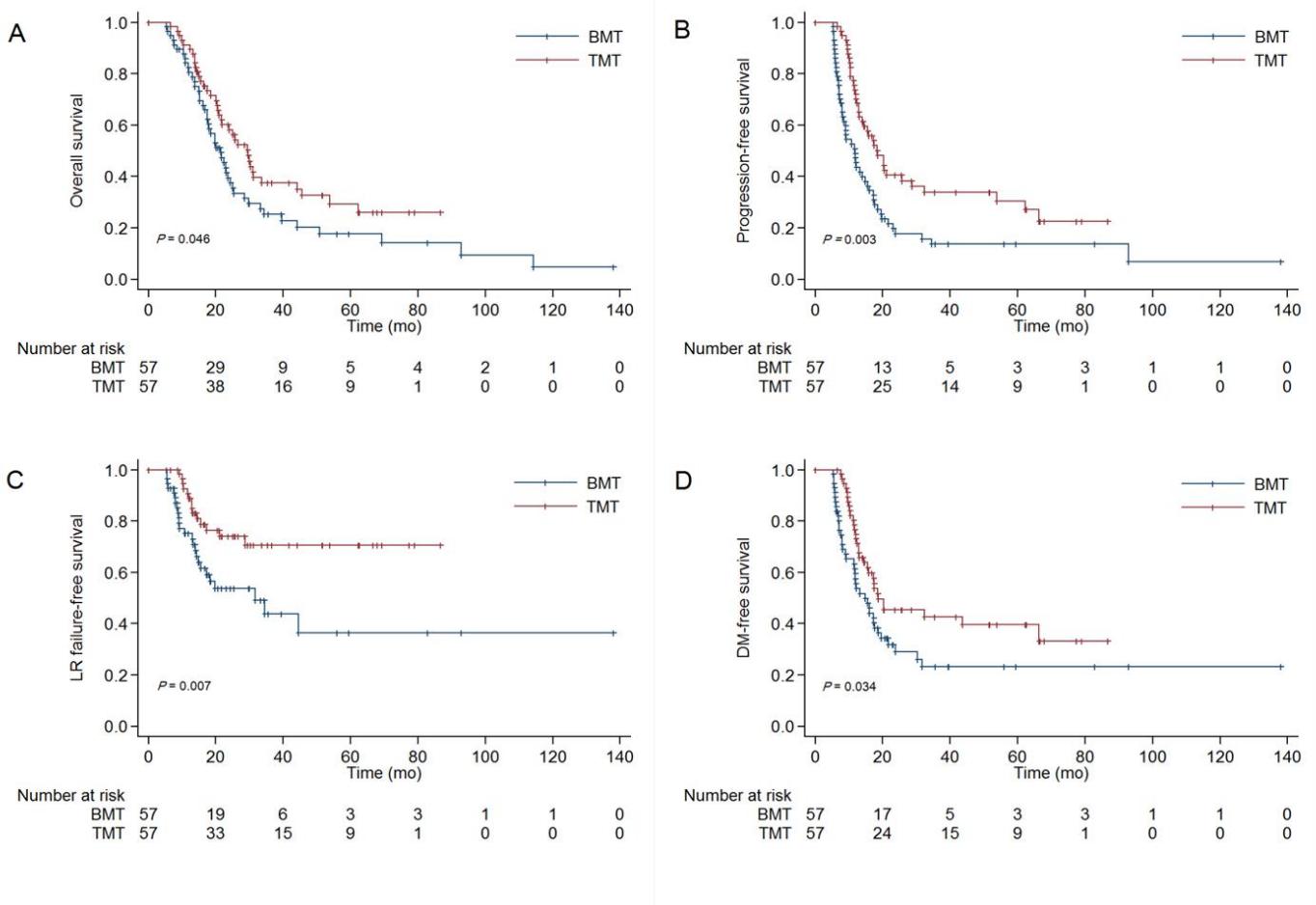
Supplemental Table 4. Pretreatment Characteristics for the 172 FDG-PET Non-Responders by Therapy Type

| Characteristic | All Patients | | Before Matching | | After Propensity Score Matching | | |
|----------------------|--------------|-----------------|------------------|---------|---------------------------------|-----------------|---------|
| | n=172 (%) | BMT n=63 (%) | TMT n=109 (%) | P-Value | BMT n=57 (%) | TMT n=57 (%) | P-Value |
| Age (years) | | | | 0.055 | | | |
| <61 | 79 (45.9) | 21 (33.3) | 58 (53.2) | | 21 (36.8) | 21 (36.8) | 1.000 |
| ≥61 | 93 (54.1) | 42 (66.7) | 51 (46.8) | | 36 (63.2) | 36 (63.2) | |
| Sex | | | | 0.041 | | | |
| Male | 156 (90.7) | 56 (88.9) | 100 (91.7) | | 50 (87.7) | 52 (91.2) | 0.542 |
| Female | 16 (9.3) | 7 (11.1) | 9 (8.3) | | 7 (12.3) | 5 (8.8) | |
| Ethnicity | | | | 0.012 | | | |
| Caucasian | 158 (91.9) | 56 (88.9) | 102 (93.6) | | 51 (89.5) | 51 (89.5) | |
| Others | 14 (8.1) | 7 (11.1) | 7 (6.4) | | 6 (10.5) | 6 (10.5) | |
| ECOG PS | | | | 0.054 | | | |
| 0 | 69 (40.1) | 21 (33.3) | 48 (44.0) | | 18 (31.6) | 25 (43.9) | |
| 1–2 | 103 (59.9) | 42 (66.7) | 61 (56.0) | | 39 (68.4) | 32 (56.1) | |
| Weight loss | | | | <0.001 | | | |
| <10% | 124 (72.1) | 38 (60.3) | 86 (78.9) | | 38 (66.7) | 38 (66.7) | |
| ≥10% | 48 (27.9) | 25 (39.7) | 23 (21.1) | | 19 (33.3) | 19 (33.3) | |
| Histologic subtype | | | | 0.841 | | | |
| Signet ring cell | 29 (16.9) | 12 (19.0) | 17 (15.6) | | 11 (19.3) | 8 (14.0) | 0.451 |
| None | 143 (83.1) | 51 (81.0) | 92 (84.4) | | 46 (80.7) | 49 (86.0) | |
| Histologic grade | | | | 0.398 | | | |
| G1-2 | 75 (43.6) | 23 (36.5) | 52 (47.7) | | 18 (31.6) | 23 (40.4) | |
| G3 | 97 (56.4) | 40 (63.5) | 57 (52.3) | | 39 (68.4) | 34 (59.6) | |
| Tumor location | | | | <0.001 | | | |
| Upper/middle | 3 (1.7) | 1 (1.6) | 2 (1.8) | | 1 (1.8) | 1 (1.8) | |
| Distal/GEJ | 169 (98.3) | 62 (98.4) | 107 (98.2) | | 56 (98.2) | 56 (98.2) | |
| Primary tumor length | | | | 0.975 | | | |
| ≤6 cm | 101 (58.7) | 37 (58.7) | 64 (58.7) | | 34 (59.6) | 31 (54.4) | |
| >6 cm | 71 (41.3) | 26 (41.3) | 45 (41.3) | | 23 (40.4) | 26 (45.6) | |
| Clinical T stage | | | | 0.073 | | | |
| T1-2 | 11 (6.4) | 1 (1.6) | 10 (9.2) | | 1 (1.8) | 1 (1.8) | |
| T3-4 | 161 (93.6) | 62 (98.4) | 99 (90.8) | | 56 (98.2) | 56 (98.2) | |
| Clinical N stage | | | | 0.139 | | | |
| N0 | 31 (18.0) | 9 (14.3) | 22 (20.2) | | 8 (14.0) | 6 (10.5) | |
| N1-3 | 141 (82.0) | 54 (85.7) | 87 (79.8) | | 49 (86.0) | 51 (89.5) | 0.568 |

Abbreviations: BMT, bimodality therapy; TMT, trimodality therapy; ECOG, Eastern Cooperative Oncology Group; PS, performance status; GEJ, gastroesophageal junction.



Supplemental Fig. 1. OS (A), PFS (B), LRFFS (C), and DMFS (D) according to type of therapy (BMT vs. TMT) among the 48 FDG-PET responders after propensity score-matching.



Supplemental Fig. 2. OS (A), PFS (B), LRFFS (C), and DMFS (D) according to type of therapy (BMT vs. TMT) among the 172 FDG-PET non-responders after propensity score-matching.