Supplementary Table 1. The 1-, 3-, and 5-year OS of different groups.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Overall Survival | Stage II | | | | Stage III-IV | | | |
| Total | NCRT | CT | CRT | Total | NCRT | CT | CRT |
| Median OS (month) | 25 | 25 | 23.5 | 28 | 13 | 9 | 14 | 20 |
| 1-year OS rate (%) | 76.0 | 74.1 | 79.1 | 85.2 | 54.1 | 40.9 | 56.5 | 78.1 |
| 3-year OS rate (%) | 48.0 | 46.8 | 50.9 | 52.9 | 23.1 | 17.6 | 24.1 | 32.9 |
| 5-year OS rate (%) | 34.5 | 32.8 | 38.9 | 41.5 | 14.7 | 11.3 | 15.0 | 21.1 |

Supplementary Table 2 Univariate and multivariate Cox analysis of stage II GBC patients.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Clinicopathological characteristic | Univariate | | | Multivariate | | |
| HR | 95%CI | *p* | HR | 95%CI | *p* |
| Sex |  |  |  |  |  |  |
| Male vs. Female | 1.081 | 0.924-1.264 | 332 |  |  |  |
| Age (years) |  |  |  |  |  |  |
| ≥60 vs. <60 | 1.781 | 1.426-2.225 | <0.001 | 1.426 | 1.139-1.785 | 0.002 |
| Differentiation Grade |  |  | <0.001 |  |  | <0.001 |
| II vs. I | 1.3 | 1.063-1.590 | 0.011 | 1.298 | 1.061-1.589 | 0.011 |
| III vs. I | 1.878 | 1.511-2.333 | <0.001 | 1.829 | 1.471-2.274 | <0.001 |
| IV vs. I | 3.24 | 1.646-6.378 | 0.001 | 2.961 | 1.504-5.831 | 0.002 |
| Surgical type |  |  |  |  |  |  |
| Extended Resection vs. Radical Resection | 0.63 | 0.437-0.908 | 0.013 |  |  |  |
| Lymphadenectomy |  |  | <0.001 |  |  | <0.001 |
| 1~3 vs. none | 0.505 | 0.420-0.607 | <0.001 | 0.518 | 0.430-0.624 | <0.001 |
| ≥4 vs. none | 0.234 | 0.174-0.314 | <0.001 | 0.247 | 0.183-0.332 | <0.001 |
| Adjuvant therapy |  |  | 0.070 |  |  |  |
| CT vs. NCRT | 0.855 | 0.661-1.106 | 0.232 |  |  |  |
| CRT vs. NCRT | 0.78 | 0.618-0.984 | 0.036 |  |  |  |

Supplementary Table 3 Univariate and multivariate Cox analysis of stage III-IV GBC patients.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Clinicopathological characteristic | Univariate | | | Multivariate | | |
| HR | 95%CI | *p* | HR | 95%CI | *p* |
| Sex |  |  |  |  |  |  |
| Male vs. Female | 1.113 | 0.983-1.260 | 0.092 |  |  |  |
| Age (years) |  |  |  |  |  |  |
| ≥60 vs. <60 | 1.439 | 1.244-1.665 | <0.001 | 1.221 | 1.220 | 0.010 |
| Differentiation Grade |  |  | <0.001 |  |  | <0.001 |
| II vs. I | 1.091 | 0.890-1.337 | 0.403 | 1.19 | 1.092-1.413 | 0.098 |
| III vs. I | 1.369 | 1.115-1.679 | 0.003 | 1.471 | 1.443-1.894 | <0.001 |
| IV vs. I | 1.599 | 0.960-2.665 | 0.071 | 2.047 | 1.388-3.027 | 0.006 |
| T stage |  |  | <0.001 |  |  | <0.001 |
| T2 vs. T1 | 0.841 | 0.527-1.342 | 0.468 | 0.769 | 1.310-1.743 | 0.273 |
| T3 vs. T1 | 1.606 | 1.019-2.532 | 0.041 | 1.451 | 2.794-3.774 | 0.118 |
| T4 vs. T1 | 2.586 | 1.547-4.325 | <0.001 | 2.478 | 4.041-7.203 | 0.001 |
| N stage |  |  | <0.001 |  |  | <0.001 |
| N1 vs. N0 | 0.668 | 0.594-0.751 | <0.001 | 1.607 | 1.547-2.016 | <0.001 |
| N2 vs. N0 | 1.039 | 0.783-1.379 | 0.792 | 3.048 | 2.701-5.004 | <0.001 |
| Surgical type |  |  |  |  |  |  |
| Extended Resection vs. Radical Resection | 0.816 | 0.699-0.952 | 0.010 |  |  |  |
| Lymphadenectomy |  |  | <0.001 |  |  | <0.001 |
| 1~3 vs. none | 0.525 | 0.462-0.597 | <0.001 | 0.519 | 0.468-0.594 | <0.001 |
| ≥4 vs. none | 0.482 | 0.413-0.563 | <0.001 | 0.465 | 0.347-0.468 | <0.001 |
| Adjuvant therapy |  |  | <0.001 |  |  | <0.001 |
| CT vs. NCRT | 0.72 | 0.622-0.834 | <0.001 | 0.701 | 0.730-0.947 | <0.001 |
| CRT vs. NCRT | 0.513 | 0.446-0.590 | <0.001 | 0.571 | 0.582-0.746 | <0.001 |

**Supplementary Table 4.** Demographic and clinicopathologic characteristics of training, internal validation, and external validation sets.

|  |  |  |  |
| --- | --- | --- | --- |
| Clinicopathological characteristic | Training  (n=1044) | Internal Validation  (n=452) | External Validation  (n=88) |
| Sex |  |  |  |
| female | 754 (72.2%) | 290 (64.2%) | 58 (65.9%) |
| male | 290 (27.8%) | 162 (35.8%) | 30 (34.1%) |
| Age (years) |  |  |  |
| <60 | 207 (19.8%) | 108 (23.9%) | 21 (23.9%) |
| ≥60 | 837 (80.2%) | 344 (76.1%) | 21 (23.9%) |
| Differentiation Grade |  |  |  |
| I | 99 (9.5%) | 47 (10.4%) | 2 (2.3%) |
| II | 480 (46.0%) | 216 (47.8%) | 44 (50.0%) |
| III | 453 (43.4%) | 181 (40.0%) | 39 (44.3%) |
| IV | 12 (1.1%) | 8 (1.8%) | 3 (3.4%) |
| TNM stage |  |  |  |
| III | 959 (91.9%) | 412 (91.2%) | 74 (84.1%) |
| IV | 85 (8.1%) | 40 (8.8%) | 14 (15.9%) |
| T stage |  |  |  |
| T1 | 21 (2.0%) | 4 (0.9%) | 0(0%) |
| T2 | 247 (23.7%) | 118 (26.1%) | 1 (1.1%) |
| T3 | 726 (69.5%) | 312 (69.0%) | 74 (84.1%) |
| T4 | 50 (4.8%) | 18 (4.0%) | 13 (14.8%) |
| N stage |  |  |  |
| N0 | 511 (48.9%) | 241 (53.3%) | 65 (73.9%) |
| N1 | 494 (47.3%) | 187 (41.4%) | 22 (25.0%) |
| N2 | 39 (3.7%) | 24 (5.3%) | 1 (1.1%) |
| Surgical type |  |  |  |
| Radical Resection | 872 (83.5%) | 366 (81.0%) | 66 (75.0%) |
| Extended Resection | 172 (16.5%) | 86 (19.0%) | 22 (25.0%) |
| Lymphadenectomy |  |  |  |
| none | 394 (37.7%) | 161 (35.6%) | 7 (8.0%) |
| 1~3 | 431 (41.3%) | 183 (40.5%) | 38 (43.2%) |
| ≥4 | 219 (21.0%) | 108 (23.9%) | 43 (48.9%) |
| Adjuvant Therapy |  |  |  |
| NCRT | 569 (54.5%) | 216 (47.8%) | 23 (26.1%) |
| CT | 196 (18.8%) | 122 (27.0%) | 27 (30.7%) |
| CRT | 279 (26.7%) | 114 (25.2%) | 38 (43.2%) |