**Suppl 3. Univariate and multivariate analysis of disease free survival in Cohort 1**

| Characteristics | Univariate analysis |  | Multivariate analysisa |  | Multivariate analysisb |
| --- | --- | --- | --- | --- | --- |
| Hazard ratio (95% CI) | P value | Hazard ratio (95% CI) | P value |  | Hazard ratio (95% CI) | P value |
| Gender |   |  |  |   |  |  |  |  |
| fenale vs male | 1.644 (0.892 - 3.031) | 0.111 |  |  |  |  |  |  |
| Age (year) |   |  |  |  |  |  |  |  |
| ≥60 vs <59 | 0.980 (0.525 - 1.827) | 0.948 |  |  |  |  |  |  |
| Tumor size (cm) |   |  |  |  |  |  |  |  |
| ≥5 vs <5 | 0.904 (0.474 - 1.723) | 0.758 |  |  |  |  |  |  |
| Differentiation |   |  |  |  |  |  |  |  |
| moderately vs well | 0.690 (0.239 - 1.997) | 0.494 |  |  |  |  |  |  |
| poorly vs well | 1.273 (0.419 - 3.871) | 0.670 |  |  |  |  |  |  |
| Vessel invasion |  |  |  |  |  |  |  |  |
| yse vs no | 2.768 (1.350 - 5.677) | 0.005 |  | 1.865 (0.805 - 4.322) | 0.146 |  |  |  |
| Nerve invasion |  |  |  |  |  |  |  |  |
| yse vs no | 4.183 (1.477 - 11.843) | 0.007 |  | 1.651 (0.472 - 5.781) | 0.433 |  |  |  |
| T stage |  |  |  |  |  |  |  |  |
| Ⅲ-Ⅳ vs Ⅰ-Ⅱ | 1.651 (0.763 - 3.576) | 0.203 |  |  |  |  | 0.961 (0.420 - 2.195) | 0.924 |
| N stage |  |  |  |  |  |  |  |  |
| 1-2 vs 0 | 3.182 (1.622 - 6.244) | < 0.001 |  | 1.596 (0.212 - 12.005) | 0.650 |  | 2.069 (0.280 - 15.287) | 0.476 |
| M stage |  |  |  |  |  |  |  |  |
| 1 vs 0 | 10.093 (2.251 - 45.246) | 0.003 |  | 5.042 (0.910 - 27.947) | 0.064 |  |  |  |
| Pathological stage |  |  |  |  |  |  |  |  |
| Ⅲ-Ⅳ vs Ⅰ-Ⅱ | 3.123 (1.563 - 6.238) | 0.001 |  | 1.418 (0.183 - 10.996) | 0.738 |  | 1.404 (0.176 - 11.177) | 0.749 |
| FBXO43 |  |  |  |  |  |  |  |  |
| high vs low | 2.270 (1.194 - 4.315) | 0.012 |  | 1.913 (0.982 - 3.728) | 0.057 |  | 1.862 (0.963 - 3.600) | 0.064 |

aModel a included vessel invasion, nerve invasion, N stage, M stage, pathological stage and FBXO43.

bModel b included T stage, N stage, pathological stage and FBXO43.