Table S. Univariate and multivariate Cox regression analyzing the prognostic factors for survival of patients with malignant giant cell tumor of bone with the extra-skeletal cases.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subject characteristics** | **Univariate** | | **Multivariate** | |
| **HR (95%CI)** | ***P-value*** | **HR (95%CI)** | ***P-value*** |
| **Sex** |  |  |  |  |
| Male | 1.00(Reference) |  | 1.00(Reference) |  |
| Female | 0.85 (0.54-1.34) | *0.495* | 0.74 (0.43-1.27) | *0.277* |
| **Age** |  |  |  |  |
| ≤18 | 1.00(Reference) |  | 1.00(Reference) |  |
| 19-34 | 3.68 (0.49-27.91) | *0.207* | 3.67 (0.48-28.18) | *0.211* |
| 35-60 | 12.10 (1.65-88.57) | *0.014* | 11.20 (1.51-83.19) | *0.018* |
| >60 | 55.70 (7.46-415.79) | *<0.001* | 64.54 (8.40-495.99) | *<0.001* |
| **Marital status** |  |  |  |  |
| Unmarried | 1.00(Reference) |  | NA | *NA* |
| Married | 1.46 (0.91-2.35) | *0.116* | NA | *NA* |
| Unknown | 1.14 (0.50-2.60) | *0.751* | NA | *NA* |
| **Insurance recode** |  |  |  |  |
| Uninsured | 1.00(Reference) |  |  |  |
| Insured | 0.67 (0.09-4.98) | *0.698* | NA | *NA* |
| Unknown | 0.64 (0.38-1.08) | *0.095* | NA | *NA* |
| **Race** |  |  |  |  |
| White | 1.00(Reference) |  |  |  |
| Black | 0.98 (0.50-1.92) | *0.958* | NA | *NA* |
| AI | 0.99 (0.24-4.07) | *0.993* | NA | *NA* |
| API | 1.41 (0.67-2.97) | *0.359* | NA | *NA* |
| Unknown |  |  |  |  |
| **Year of diagnosis** |  |  |  |  |
| 1975-1984 | 1.00(Reference) |  | 1.00(Reference) |  |
| 1985-2004 | 1.44 (0.64-3.24) | *0.375* | 0.78 (0.31-1.99) | *0.607* |
| 2005-2013 | 2.27 (0.96-5.36) | *0.062* | 1.12 (0.29-4.32) | *0.864* |
| 2014-2016 | 1.76 (0.44-7.09) | *0.429* | 0.36 (0.05-2.44) | *0.293* |
| **Primary site** |  |  |  |  |
| Long bones of lower limb and associated joints | 1.00(Reference) |  | 1.00(Reference) |  |
| Long bones of upper limb and associated joints | 0.68 (0.31-1.46) | *0.320* | 0.68 (0.30-1.57) | *0.367* |
| Pelvis and spine | 1.42 (0.77-2.62) | *0.262* | 0.94 (0.48-1.85) | *0.864* |
| Irregular bone, short bone, and flat bone | 1.25 (0.63-2.48) | *0.523* | 1.08 (0.51-2.27) | *0.847* |
| Others | 9.37 (3.88-22.65) | *<0.001* | 3.33 (1.02-10.85) | *0.046* |
| Unknown | 2.01 (0.62-6.58) | *0.246* | 0.83 (0.21-3.31) | *0.796* |
| **Grade** |  |  |  |  |
| Grade I | 1.00(Reference) |  | NA | *NA* |
| Grade II | 1.10 (0.21-5.72) | *0.909* | NA | *NA* |
| Grade III | 3.82 (0.79-18.48) | *0.096* | NA | *NA* |
| Grade IV | 4.18 (0.95-18.46) | *0.059* | NA | *NA* |
| Unknown | 0.90 (0.22-3.72) | *0.885* | NA | *NA* |
| **T stage** |  |  |  |  |
| T1 | 1.00(Reference) |  | 1.00(Reference) |  |
| T2 | 8.37 (2.79-25.11) | *<0.001* | 7.58 (2.36-24.35) | *0.001* |
| T3 | 15.52 (3.44-70.02) | *<0.001* | 8.01 (1.51-42.33) | *0.014* |
| Unknown | 2.36 (0.85-6.60) | *0.101* | 2.19 (0.62-7.67) | *0.222* |
| **N stage** |  |  |  |  |
| N0 | 1.00(Reference) |  | 1.00(Reference) |  |
| N1 | 2.80 (0.38-20.53) | *0.312* | 0.49 (0.05-4.71) | *0.534* |
| Unknown | 0.62 (0.38-1.03) | *0.063* | 0.49 (0.07-3.47) | *0.471* |
| **M stage** |  |  |  |  |
| M0 | 1.00(Reference) |  | 1.00(Reference) |  |
| M1 | 4.12 (2.00-8.47) | *<0.001* | 1.16 (0.44-3.05) | *0.771* |
| Unknown | 0.90 (0.52-1.56) | *0.706* | 2.26 (0.29-17.51) | *0.434* |
| **SEER historic stage** |  |  |  |  |
| Localized | 1.00(Reference) |  | 1.00(Reference) |  |
| Regional | 1.42 (0.76-2.66) | *0.274* | 1.07 (0.54-2.12) | *0.851* |
| Distant | 3.92 (2.13-7.21) | *<0.001* | 2.50 (1.12-5.57) | *0.025* |
| Unknown | 1.07 (0.53-2.13) | *0.857* | 1.05 (0.48-2.27) | *0.909* |
| **Surg (prim)** |  |  |  |  |
| None | 1.00(Reference) |  | 1.00(Reference) |  |
| Yes | 0.59 (0.33-1.05) | *0.071* | 0.70 (0.37-1.33) | *0.277* |
| Unknown | 0.43 (0.22-0.85) | *0.016* | 0.75 (0.31-1.80) | *0.513* |

Abbreviations: Met=Metastases.