**Supplementary Table 3. Univariate and multivariate analyses of OS**

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| --- | --- | --- | --- | --- | --- |
| Variables | Univariate analysis | | | Multivariate analysis | |
| **β** | **HR (95%CI)** | **P value** | **HR (95%CI)** | **P value** |
| Sex  Female vs. male | 0.251 | 1.286 (0.623–2.653) | 0.496 |  |  |
| Age, year  >vs ≤54.388 | −0.076 | 0.927 (0.629–1.364) | 0.699 |  |  |
| ECOG-PS  0 vs 1 | 0.412 | 1.509 (0.987–2.308) | 0.057 |  |  |
| Etiology | −0.226 | 0.798 (0.478–1.333) | 0.389 |  |  |
| NLR  ≤ vs >3.125 | 0.594 | 1.810 (1.206–2.718) | 0.004 | 2.375 (1.444–3.906) | <0.001 |
| ALBI grade  1 vs 2 | 0.273 | 1.315 (0.894–1.933) | 0.164 |  |  |
| Child–Pugh  5 vs 6 and 7 | 0.302 | 1.352(0.782–2.338) | 0.281 |  |  |
| AFP, ng/mL  ≤ vs >400 | 0.757 | 2.131 (1.437–3.162) | <0.001 |  |  |
| DCP, mAU/mL  ≤ vs >664 | 0.619 | 1.857 (1.229–2.806) | 0.003 | 1.608 (1.047–2.469) | 0.030 |
| Target tumor size, cm  ≤ vs >7.5 | 0.044 | 1.045 (0.705–1.549) | 0.826 |  |  |
| Target tumor number  1 vs ≥1 | 0.097 | 0.101 (0.697–1.740) | 0.679 |  |  |
| MVI  Absent vs present | 0.595 | 1.183 (1.225–2.682) | 0.003 | 0.835 (0.513–1.359) | 0.468 |
| EHS  Absent against present | 0.146 | 1.157 (0.784–1.707) | 0.462 |  |  |
| BCLC stage  B vs. C | 0.583 | 1.791 (1.199–2.674) | 0.004 | 1.712 (1.051–2.789) | 0.031 |
| ETS  0: ETS<10%  1: ETS≥10% | 1.738 | 5.686 (3.594–8.995) | ＜0.001 | 2.985 (1.575–5.658) | 0.001 |
| DoR  0: DoR<27%  1: DoR≥27% | 1.187 | 6.152 (3.926–9.642) | ＜0.001 | 2.197 (1.161–4.160) | 0.016 |

Abbreviations: AFP, alpha-fetoprotein; ALBI, albumin–bilirubin grade; BCLC, Barcelona Clinic Liver Cancer; cm, centimeter; DCP, Des-gamma carboxy prothrombin; DoR, duration of response; EHS, extrahepatic spread; EOCG-PS, Eastern Cooperative Oncology Group Performance Score; ETS, early tumor shrinkage; HR, hazard ratio; mAU, milli-absorbance unit; mL, microliter; MVI, macrovascular invasion; ng, nanogram; NLR, neutrophil-to-lymphocyte ratio; OS, overall survival