|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Categories** | **Overall survival** | **Recurrence-free survival** |
| **HR** | **95% CI** | ***P* value** | **HR**  | **95% CI** | ***P* value** |
| **Univariate analysis** |
| Gender | Male / female | 1.782 | 0.536-5.922 | 0.346 | 1.164 | 0.358-3.785 | 0.800 |
| Age (years) | >50 / ≤ 50 | 0.828 | 0.460-1.492 | 0.530 | 0.764 | 0.427-1.367 | 0.365 |
| AFP(μg/L) | >20 / ≤ 20 | 0.924 | 0.474-1.802 | 0.817 | 1.016 | 0.523-1.973 | 0.963 |
| Liver Cirrhosis | Yes / no | 0.572 | 0.236-1.389 | 0.218 | 0.607 | 0.252-1.460 | 0.265 |
| MVI | Yes / no | 2.083 | 1.089-3.983 | **0.027** | 1.780 | 0.955-3.320 | 0.070 |
| Tumor number | Multiple / Single | 0.743 | 0.341-1.621 | 0.456 | 0.937 | 0.426-2.061 | 0.871 |
| Tumor size (cm) | >5 / ≤ 5 | 1.925 | 1.041-3.561 | **0.037** | 2.219 | 1.181-4.170 | **0.013** |
| Tumor encapsulation | No / Yes | 0.674 | 0.360-1.262 | 0.218 | 0.996 | 0.536-1.852 | 0.991 |
| Tumor differentiation | III-IV / I-II | 1.256 | 0.694-2.270 | 0.451 | 1.211 | 0.670-2.188 | 0.526 |
| TNM stage | III-IV / I-II | 2.307 | 1.222-4.355 | **0.010** | 2.614 | 1.392-4.910 | **0.003** |
| BCLC stage | B+C / 0+A | 1.678 | 0.880-3.200 | 0.116 | 1.617 | 0.865-3.022 | 0.132 |
| HBsAg | Positive / negative | 1.394 | 0.699-2.778 | 0.345 | 1.188 | 0.594-2.376 | 0.626 |
| Protein level of UFL1Protein level of DDRGK1 | High / LowHigh / Low | 0.6331.020 | 0.341-1.1770.548-1.897 | 0.1490.950 | 0.5731.465 | 0.303-1.0810.792-2.710 | 0.0850.223 |
|  |
| **Multivariate analysis** |  |  |  |  |  |  |  |
| MVI | Yes / no | 1.812 | 0.879-3.737 | 0.107 | 1.266 | 0.590-2.717 | 0.545 |
| Tumor size (cm) | >5 / ≤ 5 | 1.601 | 0.755-3.396 | 0.220 | 1.699 | 0.821-3.516 | 0.153 |
| TNM stage | III-IV / I-II | 1.395 | 0.611-3.182 | 0.429 | 1.733 | 0.726-4.142 | 0.216 |

**Supplementary Table 3. Univariate and multivariate analyses of factors associated with prognosis of HCC patients in TMA cohort of Zhongshan.**

Abbreviations: AFP, alpha-fetoprotein; MVI, Microvascular invasion; TNM, tumor-node-metastasis; BCLC, Barcelona Clinic Liver Cancer; HR, hazard ratio; 95% CI, 95% confidence interval. A value of *P* < 0.05 was considered to be significant.