**Supplemental Table 3**

**Univariate analysis with respect to outcome in the resection group**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Recurrence-free survival | | | | |
| Factors | Number of patients | Recurrence-free  survival days  (median, 95% CI) | *P* value | Hazard Ratio (median, 95% CI) |
| K19 expression |  |  |  |  |
| Positive | 11 | 169 (72-266) | 0.0005 | 5.9 |
| Negative | 93 | 655 (506-803) |  | (2.18-16.0) |
| Age (years) |  |  |  |  |
| ≧65 | 65 | 558 (332-784) | 0.108 | 1.45 |
| ＜65 | 39 | 688 (33-1343) |  | (0.92-2.28) |
| Gender |  |  |  |  |
| Male | 83 | 644 (469-859) | 0.131 | 0.63 |
| Female | 21 | 351 (276-426) |  | (0.35-1.15) |
| AST activity (IU/L) |  |  |  |  |
| ≧40 | 66 | 568 (269-867) | 0.318 | 1.26 |
| ＜40 | 38 | 664 (406-922) |  | (0.8-1.98) |
| ALT activity (IU/L) |  |  |  |  |
| ≧40 | 57 | 576 (365-787) | 0.375 | 1.22 |
| ＜40 | 47 | 640 (359-921) |  | (0.78-1.91) |
| Total billirubin (mg/dl) |  |  |  |  |
| ＞1.0 | 27 | 765 (213-1317) | 0.618 | 1.15 |
| ≦1.0 | 77 | 558 (316-800) |  | (0.69-1.89) |
| Albumin (g/dl) |  |  |  |  |
| ＜3.5 | 24 | 231 (72-390) | 0.003 | 2.74 |
| ≧3.5 | 80 | 674 (453-894) |  | (1.41-5.32) |
| Platelet count (104/mm3) |  |  |  |  |
| ＜10 | 27 | 375 (19-731) | 0.13 | 1.51 |
| ≧10 | 77 | 640 (521-759) |  | (0.89-2.58) |
| AFP (ng/ml) |  |  |  |  |
| ≧100 | 38 | 375 (NA-799) | 0.363 | 1.25 |
| ＜100 | 66 | 653 (523-783) |  | (0.77-2.04) |
| PIVKA-II (mAU/ml) |  |  |  |  |
| ≧400 | 46 | 473 (210-736) | 0.971 | 1.01 |
| ＜400 | 58 | 653 (529-777) |  | (0.64-1.58) |
| Hepatitis B infection |  |  |  |  |
| Present | 13 | 375 (266-484) | 0.907 | 0.96 |
| Absent | 91 | 653 (503-803) |  | (0.48-1.91) |
| Hepatitis C infection |  |  |  |  |
| Present | 64 | 568 (279-857) | 0.308 | 1.26 |
| Absent | 40 | 674 (348-1000) |  | (0.81-1.98) |
| Tumor size (cm) |  |  |  |  |
| ≧5cm | 47 | 473 (64-882) | 0.635 | 1.12 |
| ＜5cm | 57 | 653 (514-792) |  | (0.71-1.76) |
| Tumor number |  |  |  |  |
| Multiple | 33 | 473 (84-862) | 0.231 | 1.34 |
| Single | 71 | 586 (463-709) |  | (0.83-2.17) |
| Tumor differentiation |  |  |  |  |
| Poor | 18 | 716 (602-830) | 0.782 | 0.92 |
| Others | 80 | 653 (520-786) |  | (0.49-1.71) |
| Portal Invasion |  |  |  |  |
| Positive | 36 | 267 (132-402) | 0.007 | 2.08 |
| Negative | 68 | 800 (418-1182) |  | (1.23-3.54) |
| Liver cirrhosis |  |  |  |  |
| F4 | 33 | 418 (172-663) | 0.027 | 1.79 |
| Others | 71 | 688 (428-948) |  | (1.07-3.00) |
| Type of resection |  |  |  |  |
| Anatomic | 75 | 568 (287-849) | 0.616 | 1.13 |
| Partial | 29 | 674 (387-961) |  | (0.69-1.83) |
| Overall survival | | | | |
| Factors | Number of patients | Overall survival days (median, 95%CI) | *P* value | Hazard Ratio (median, 95% CI) |
| K19 expression |  |  |  |  |
| Positive | 11 | 963 (816-1110) | 0.002 | 5.73 |
| Negative | 93 | 2248 |  | (1.91-17.2) |
| Age (years) |  |  |  |  |
| ≧65 | 64 | 2093 (1574-2611) | 0.05 | 1.76 |
| ＜65 | 40 | NA |  | (0.99-3.09) |
| Gender |  |  |  |  |
| Male | 83 | 1929 (1085-2773) | 0.131 | 0.85 |
| Female | 21 | 2198 (1936-2460) |  | (0.43-1.72) |
| AST activity (IU/L) |  |  |  |  |
| ≧40 | 63 | 2093 (1812-2374) | 0.341 | 1.32 |
| ＜40 | 41 | 2286 |  | (0.75-2.34) |
| ALT activity (IU/L) |  |  |  |  |
| ≧40 | 57 | 2162 (1901-2423) | 0.872 | 1.05 |
| ＜40 | 47 | 2248 (1578-2918) |  | (0.59-1.83) |
| Total billirubin (mg/dl) |  |  |  |  |
| ＞1.0 | 27 | 2198 (2071-2325) | 0.971 | 1.01 |
| ≦1.0 | 77 | 2093 |  | (0.54-1.88) |
| Albumin (g/dl) |  |  |  |  |
| ＜3.5 | 24 | 974 (523-1425) | 0.003 | 4.34 |
| ≧3.5 | 80 | 2286 |  | (2.04-9.25) |
| Platelet count (104/mm3) |  |  |  |  |
| ＜10 | 27 | 1977 (1089-2865) | 0.155 | 1.61 |
| ≧10 | 77 | 2286 |  | (0.84-3.09) |
| AFP (ng/ml) |  |  |  |  |
| ≧100 | 38 | 1355 (188-2522) | 0.064 | 1.76 |
| ＜100 | 66 | 2286 |  | (0.97-3.19) |
| PIVKA-II (mAU/ml) |  |  |  |  |
| ≧400 | 46 | 1901 (1058-2744) | 0.271 | 1.37 |
| ＜400 | 58 | 2248 (2030-2466) |  | (0.78-2.41) |
| Hepatitis B infection |  |  |  |  |
| Present | 13 | NA | 0.908 | 0.93 |
| Absent | 91 | 2198 (1907-2489) |  | (0.41-2.15) |
| Hepatitis C infection |  |  |  |  |
| Present | 64 | NA | 0.119 | 1.57 |
| Absent | 40 | 1960 (1605-2315) |  | (0.89-2.75) |
| Tumor size (cm) |  |  |  |  |
| ≧5cm | 78 | 1901 (1019-2783) | 0.09 | 1.63 |
| ＜5cm | 26 | 2248 (2036-2461) |  | (0.93-2.87) |
| Tumor number |  |  |  |  |
| Multiple | 33 | 2248 | 0.157 | 0.66 |
| Single | 71 | 1977 (1501-2453) |  | (0.37-1.18) |
| Tumor differentiation |  |  |  |  |
| Poor | 18 | 1095 (NA-2670) | 0.171 | 1.77 |
| Others | 80 | 2248 (2053-2443) |  | (0.78-4.03) |
| Portal Invasion |  |  |  |  |
| Positive | 36 | 1049 (864-1234) | 0.007 | 2.61 |
| Negative | 68 | 2286 |  | (1.38-4.92) |
| Liver cirrhosis |  |  |  |  |
| F4 | 33 | 1498 (415-2581) | 0.004 | 2.53 |
| Others | 71 | NA |  | (1.35-4.71) |
| Type of resection |  |  |  |  |
| Anatomic | 75 | 2198 (1403-2993) | 0.228 | 1.44 |
| Partial | 29 | 2248 (2032-2464) |  | (0.79-2.62) |

Abbreviation: K19, keratin 19; AST, asparatate aminotransferase; ALT, alanine aminotransferase; AFP, alpha-fetoprotein; PIVKA-II, protein induced by vitamin K absence or antagonists-II; NA, not available; CI, confidence interval.