**Supplementary Table 1. Characteristics of all the studies included in the meta-analysis.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author | Year | Age (years) | Gender (male/female) | Liver cirrhosis  (numbers) | HBV/HCV status (numbers) | Number of tumor (solitary/multiple) | AFP (ng/ml) | Tumor size (cm) |
| Belli | 2011 | 63.2 | 38/27 | 65 | NA | 53/12 | 56 cases≤400,  9 cases>400 | 3.8 |
| Chang | 2012 | 59.3 | 403/75 | NA | 313/77 | 171/307 | 110 | 7.5 |
| Chen | 2003 | 196 cases≤65,  46 cases>65 | 186/56 | 0 | 172/NA | 161/81 | 58 cases≤20,  184 cases>20 | 19 cases≤2,  223 cases>2 |
| Chen | 2015 | 155 cases≤60,  41 cases>60 | 156/40 | 124 | 178/NA | 111/85 | 94 cases≤200,  102 cases>200 | 50 cases≤5,  146 cases>5 |
| Chen | 2021 | 332 cases≤60,  82 cases>60 | 340/74 | 288 | 355/NA | 362/52 | 295 cases≤400,  119 cases>400 | 271 cases≤5,  143 cases>5 |
| Dong | 2016 | 55.2 | 486/100 | 536 | 504/16 | 586/0 | 305 cases≤20,  281 cases>20 | 408 cases≤5,  178 cases>5 |
| Han | 2019 | NA | 394/55 | 300 | 415/11 | NA | 110 cases≤400,  339 cases>400 | 321 cases≤5,  128 cases>5 |
| Hirokawa | 2014 | 66 | 17/3 | 6 | 17/10 | 20/0 | 121 | 4.6 |
| Hsiao | 2017 | NA | 177/44 | 86 | 108/63 | 117/104 | NA | 101 cases≤5,  120 cases>5 |
| Huang | 2013 | 946 cases≤65,  94 cases>65 | 914/126 | NA | 1040/NA | NA | 453 cases≤100,  587 cases>100 | 629 cases≤5,  411 cases>5 |
| Huang | 2015 | 102 cases≤56,  128 cases>56 | 173/57 | 99 | 152/59 | NA | 19.8 | 190 cases≤5,  40 cases>5 |
| Laurent | 2005 | 64 | 89/19 | 0 | 9/12 | NA | 65 cases≤10,  37 cases>10 | NA |
| Lee | 1996 | 55 | 42/6 | 40 | NA | NA | 9 cases≤20,  39 cases>20 | 3.3 |
| Lee | 2007 | 47 | 77/23 | NA | 83/NA | 80/20 | 59 cases≤1000,  41 cases>1000 | 13.3 |
| Lee | 2012 | 205 cases≤65,  93 cases>65 | 222/76 | 200 | 146/90 | 209/86 | 240 cases≤400,  53 cases>400 | NA |
| Lee | 2018 | 58.4 | 326/93 | 249 | 302/28 | 376/43 | NA | NA |
| Lee | 2019 | 56.4 | 428/106 | 235 | 280/128 | NA | 354 cases≤200,  140 cases>200 | 4.8 |
| Lise | 1998 | 60.2 | 86/14 | 78 | NA | NA | 37 cases≤10,  58 cases>10 | 5 |
| Liu | 2016 | 54 | 189/34 | 199 | 174/2 | 168/55 | NA | 86 cases≤5,  137 cases>5 |
| Liu | 2020 | NA | 208/32 | 174 | 183/NA | 205/35 | 137 cases≤20,  107 cases>20 | 101 cases≤5,  139 cases>5 |
| Park | 2018 | 59 | 75/17 | NA | 51/6 | 69/23 | 0.103 | 2.5 |
| Poon | 2000 | NA | 238/50 | 133 | 232/NA | NA | NA | 124 cases≤5,  164 cases>5 |
| Sasaki | 2006 | 298 cases≤65,  119 cases>65 | 317/100 | 272 | 66/351 | 318/99 | 245 cases≤100,  172 cases>100 | 256 cases≤3,  161 cases>3 |
| Shi | 2019 | 145 cases≤60,  131 cases>60 | 238/38 | 140 | 249/NA | NA | 175 cases≤400,  101 cases>400 | 46 cases≤3,  230 cases>3 |
| Shimada | 2008 | 63 | 87/30 | 54 | 23/78 | 86/31 | 23 | 2.5 |
| Shin | 2018 | 56.4 | 92/24 | 82 | 81/12 | 116/0 | 11.9 | 2.3 |
| Su | 2021 | 59.1 | 112/47 | 85 | 87/47 | 159/0 | 11.8 | 1.58 |
| Takano | 2000 | 60.8 | 235/65 | NA | 55/235 | 265/35 | 1.616 | 83 cases≤5,  217 cases>5 |
| Torii | 1993 | 57.7 | 48/11 | 56 | NA | 59/0 | NA | 30 cases≤2,  29 cases>2 |
| Tsilimigras | 2020 | 66 | 299/185 | 148 | 93/117 | NA | 8 | 4.3 |
| Wang | 2010 | 50 | 380/58 | NA | NA | 374/54 | NA | 108 cases≤5,  272 cases>5 |
| Yang | 2014 | NA | 877/208 | NA | 210/NA | NA | NA | NA |
| Zeng | 2020 | 36 | 615/84 | 355 | 699/NA | 565/134 | 141 cases≤10,  558 cases>10 | 5.8 |
| Zhang | 2014 | 48.9 | 253/49 | 253 | 302/NA | 238/64 | 90 cases≤20,  212 cases>20 | 120 cases≤5,  182 cases>5 |
| Zhang | 2021 | 53.8 | 357/68 | 260 | 376/2 | 354/71 | 54.4 | 3.5 |
| Zhou | 2020 | NA | 278/31 | 170 | 274/NA | 228/81 | 203 cases≤400,  106 cases>400 | NA |
| Zhou | 2021 | 683 cases≤60,  134 cases>60 | 695/122 | 360 | 713/NA | NA | 452 cases≤400,  365 cases>400 | 272 cases≤5,  545 cases>5 |

NA, not available; HBV, hepatitis B virus; HCV, hepatitis C virus.