Supplement Table 1 The clinical characteristics between non-TB BPE and TPE in the training set

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| --- | --- | --- | --- | --- | --- |
| Variables |  | N | non-TB BPE (n, %) | TPE (n, %) | *P* value |
| Age (years) | < 54 | 225 | 62 (23.8)  | 163 (61.5) | < 0.001 |
|  | ≥ 54 | 300 | 198 (76.2)  | 102 (38.5) |  |
| Gender | Female | 169 | 91 (35.0)  | 78 (29.4) | 0.191 |
|  | Male | 356 | 169 (65.0)  | 187 (70.6) |  |
| Smoking status | Non-smokers | 325 | 157 (60.4)  | 168 (63.4) | 0.529 |
|  | C/F smokers | 200 | 103 (39.6)  | 97 (36.6) |  |
| Effusion |  |  |   |  |  |
| WBC (×109/L) | < 0.7 | 127 | 100 (38.5)  | 27 (10.2) | < 0.001 |
|  | ≥ 0.7 | 398 | 160 (61.5)  | 238 (89.8) |  |
| neutrophil (×109/L) | < 0.96 | 417 | 178 (68.5)  | 239 (90.2) | < 0.001 |
|  | ≥ 0.96 | 108 | 82 (31.5)  | 26 (9.8) |  |
| lymphocyte (×109/L) | < 0.82 | 220 | 169 (65.0)  | 51 (19.2) | < 0.001 |
|  | ≥ 0.82 | 305 | 91 (35.0)  | 214 (80.8) |  |
| Total protein (g/L) | < 45.15 | 197 | 162 (62.3)  | 35 (13.2) | < 0.001 |
|  | ≥ 45.15 | 328 | 98 (37.7)  | 230 (86.8) |  |
| Glucose (mmol/L) | < 6.42 | 329 | 121 (46.5)  | 208 (78.5) | < 0.001 |
|  | ≥ 6.42 | 196 | 139 (53.5)  | 57 (21.5) |  |
| ADA (U/L) | < 22.75 | 229 | 198 (76.2)  | 31 (11.7) | < 0.001 |
|  | ≥ 22.75 | 296 | 62 (23.8)  | 234 (88.3) |  |
| LDH (U/L) | < 247.5 | 164 | 135 (51.9)  | 29 (10.9) | < 0.001 |
|  | ≥ 247.5 | 361 | 125 (48.1)  | 236 (89.1) |  |
| CA125 (U/ml)  | < 1996.2≥ 1996.2 | 416109 | 182 (70.0) 78 (30.0)  | 234 (88.3)31 (11.7) | <0.001 |
| CA19-9 (U/ml) | <2.82≥ 2.82 | 325200 | 177 (68.1) 83 (31.9)  | 148 (55.8)117 (44.2) | 0.004 |
| Serum |  |  |  |  |  |
| WBC (×109/L) | < 9.41≥ 9.41 | 398117 | 159 (61.2) 91 (38.8)  | 239 (90.2)26 (9.8) | < 0.001 |
| neutrophil (×109/L) | < 5.9 | 369 | 149 (57.3)  | 220 (83.0) | < 0.001 |
|  | ≥ 5.9 | 156 | 111 (42.7)  | 45 (17.0) |  |
| lymphocyte (×109/L) | < 1.29≥ 1.29 | 330195 | 151 (58.1) 109 (41.9)  | 179 (67.5)86 (32.5) | 0.030 |
| hsCRP (mg/L) | < 14.47 | 156 | 106 (40.8)  | 50 (18.9) | < 0.001 |
|  | ≥ 14.47 | 369 | 154 (59.2)  | 215 (81.1) |  |
| ESR (mm/h) | < 19 | 84 | 54 (20.8)  | 30 (11.3) | 0.004 |
|  | ≥ 19 | 441 | 206 (79.2)  | 235 (88.7) |  |
| ADA (U/L) | < 8.05 | 116 | 67 (25.8)  | 49 (18.5) | 0.046 |
|  | ≥ 8.05 | 409 | 193 (74.2)  | 216 (81.5) |  |
| LDH (U/L) | < 157.5 | 117 | 66 (25.4)  | 51 (19.2) | 0.094 |
|  | ≥ 157.5 | 408 | 194 (74.6)  | 214 (80.8) |  |
| CA125 (U/ml) | < 59.25 | 176 | 109 (41.9)  | 67 (25.3) | < 0.001 |
|  | ≥ 59.25 | 349 | 151 (58.1)  | 198 (74.7) |  |
| CA19-9 (U/ml) | < 8.49 | 313 | 128 (49.2)  | 185 (69.8) | < 0.001 |
|  | ≥ 8.49 | 212 | 132 (50.8)  | 80 (30.2) |  |
| CA125 ratio | < 12.43 | 314 | 121 (46.5)  | 193 (72.8) | < 0.001 |
|  | ≥ 12.43 | 211 | 139 (53.5)  | 72 (27.2) |  |
| CA19-9 ratio | < 0.33 | 185 | 148 (56.9)  | 37 (14.0) | < 0.001 |
|  | ≥ 0.33  | 340 | 112 (43.1)  | 228 (86.0) |  |
| Effusion LDH/ADA | < 19.46 | 292 | 75 (28.8) | 217 (81.9) | < 0.001 |
|  | ≥ 19.46 | 233 | 185 (71.2) | 48 (18.1) |  |
| Serum NLR | < 6.58 | 383 | 167 (64.2) | 216 (81.5) | < 0.001 |
|  | ≥ 6.58 | 142 | 93 (35.8) | 49 (18.5) |  |
| ADA/hsCRP | < 0.44 | 177 | 127 (49.6) | 50 (18.9 ) | <0.001 |
|  | ≥ 0.44 | 346 | 131 (50.4) | 215 (81.1) |  |

TB, tuberculous; TPE, tuberculous pleural effusion; WBC, white blood cell; ADA, adenosine deaminase; LDH, lactatedehy drogenase; CA125, carbohydrate antigen 125; CA19-9, carbohydrate antigen 19-9; hsCRP, high-sensitivity C-reactive protein; ESR, erythrocyte sedimentation rate; CA125 ratio, effusion/serum CA125; CA19-9 ratio, effusion/serum CA19-9; Effusion LDH/ADA, effusion LDH/ effusion ADA; Serum NLR, serum neutrophil/ serum lymphocyte; ADA/hsCRP, effusion ADA/ serum hsCRP

Chi-Square (X2) or Fisher Exact tests were used to compare the differences in categorical variables