**Supplementary Table 1. Characteristics of liver cirrhosis and hepatocellular carcinoma patients with Child-Pugh grade A and B/C using Propensity Score matching**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 　 | Child-Pugh grade A | Child-Pugh grade B/C | 　 | 　 |
| Mean ± S.D. | N = 40 | N = 40 | *p-*value | 　 |
| Age, years  | 68.1 | ± | 12.9 | 67.3 | ± | 12.7 | 0.7933 |  |
| Gender, N | 9/31 | 10/30 | 0.7927 | 　 |
| F/M (%) | (23/77) | (25/75) |  | 　 |
| Etiology, N | 16/8/9/3/4 | 16/4/10/3/7 | 0.7421 | 　 |
| HCV/HBV/alcohol/MASLD/others (%) | (40/20/23/7/10) | (40/10/25/8/17) |  | 　 |
| BCLC staging, N | 11/24/5 | 14/20/6 | 0.6650 | 　 |
| A/B/C (%) | (28/60/12) | (35/50/15) |  | 　 |
| HCC treatment, N | 16/11/6/7 | 16/8/9/7 | 0.0851 | 　 |
| TACE/RFA/chemotherapy/others (%) | (40/28/15/17) | (40/20/23/17) |  | 　 |
| T-Bil, mg/dL | 1.0 | ± | 0.4 | 1.5 | ± | 0.8 | 0.0050 | \* |
| AST, U/L | 40.2 | ± | 40.4 | 57.1 | ± | 28.6 | 0.0408 | \* |
| ALT, U/L | 30.3 | ± | 30.1 | 35.6 | ± | 25.4 | 0.4066 |  |
| Albumin, g/dL | 3.7 | ± | 0.4 | 3.1 | ± | 0.5 | < 0.0001 | \* |
| PT-INR | 1.0 | ± | 0.07 | 1.1 | ± | 0.1 | < 0.0001 | \* |
| PLT, ×103/μL | 125.7 | ± | 44.6 | 142.5 | ± | 107.0 | 0.3632 | 　 |
| Sodium, mEq/L | 140.1 | ± | 2.2 | 139.0 | ± | 4.1 | 0.1189 |  |
| Creatinine, mg/dL | 1.1 | ± | 1.2 | 1.3 | ± | 2.7 | 0.6254 | 　 |
| α-fetoprotein, ng/mL | 19494.3 | ± | 96776.8 | 29585.5 | ± | 123755.0 | 0.6934 | 　 |
| DCP, mAU/mL | 15479.4 | ± | 60727.7 | 25052.2 | ± | 76556.9 | 0.5536 | 　 |
| ALBI score | -2.4 | ± | 0.4 | -1.7 | ± | 0.4 | < 0.0001 | \* |
| FIB-4 index | 4.3 | ± | 3.3 | 7.0 | ± | 4.2 | 0.0031 | \* |
| MELD-Na | 8.6 | ± | 3.6 | 10.5 | ± | 4.9 | 0.0580 |  |
| BCAA, nmol/mL | 470.4 | ± | 99.6 | 419.8 | ± | 109.4 | 0.0538 |  |
| Triglyceride, mg/dL | 102.0 | ± | 46.4 | 110.9 | ± | 162.9 | 0.7555 | 　 |
| Total Cholesterol, mg/dL | 176.8 | ± | 36.2 | 189.4 | ± | 145.6 | 0.6117 |  |
| Total FAs, μg/mL | 2836.0 | ± | 584.5 | 2569.5 | ± | 516.6 | 0.0593 |  |
| SFAs, μg/mL | 912.6 | ± | 204.1 | 840.3 | ± | 161.9 | 0.1249 |  |
| Relative amount, % | 32.1 | ± | 1.6 | 32.8 | ± | 1.2 | 0.0821 |  |
| MUFAs, μg/mL | 659.5 | ± | 163.5 | 636.1 | ± | 165.9 | 0.5735 | 　 |
| Relative amount, % | 23.2 | ± | 2.8 | 24.6 | ± | 3.3 | 0.0585 |  |
| n-3 PUFAs, μg/mL | 236.3 | ± | 92.2 | 180.0 | ± | 64.7 | 0.0070 | \* |
| Relative amount, % | 8.3 | ± | 2.6 | 7.0 | ± | 2.1 | 0.0393 | \* |
| n-6 PUFAs, μg/mL | 989.2 | ± | 210.5 | 873.4 | ± | 206.5 | 0.0305 | \* |
| Relative amount, % | 35.0 | ± | 4.3 | 34.0 | ± | 3.6 | 0.3205 | 　 |
| CRP, mg/dL | 0.4 | ± | 0.6 | 0.9 | ± | 1.3 | 0.0524 |  |
| SMI, cm2/m2 | 40.3 | ± | 7.5 | 37.0 | ± | 6.5 | 0.0354 | \* |
| Presence of Sarcopenia, N | 26/14 | 30/10 | 0.3283 | 　 |
| sarcopenia/non-sarcopenia (%) | (68/32) | (75/25) |  | 　 |

S.D., standard deviation; HCV, hepatitis C virus; HBV, hepatitis B virus; MASLD, metabolic dysfunction-associated steatotic liver disease; BCLC, Barcelona Clinical Liver Cancer; HCC, hepatocellular carcinoma; TACE, transarterial chemoembolization; RFA, radiofrequency ablation; T-Bil, total bilirubin; AST, aspartate aminotransferase; ALT, alanine aminotransferase; PT, prothrombin time; PLT, platelet; DCP, des-γ-carboxy prothrombin; ALBI, albumin-bilirubin; FIB-4, fibrosis-4 score; MELD, the model of end-stage liver disease; BCAA, branched-chain amino acid; FA, fatty acid; SFA, saturated fatty acid; MUFA, monounsaturated fatty acid; PUFA, polyunsaturated fatty acid; CRP, C-reactive protein; SMI, skeletal muscle mass index.

\*: *p*-value < 0.05