**Supplementary table 1** Baseline characteristics of non-cirrhotic PBC patients with and without gallstone disease

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| Characteristics | Non-cirrhotic patients with GD (n=157) | Non-cirrhotic patients without GD (n=529) | *P* value |
| Age at diagnosis, years | 54.5 ± 11.2 | 51.5 ± 11.3 | 0.004 |
| Females, n (%) | 132 (84.1) | 472 (89.2) | 0.092 |
| AMA/AMA-M2 (+), n (%) | 136 (86.6) | 455 (86.0) | 0.896 |
| ALP, U/L | 213 (147-372) | 214 (142-359) | 0.646 |
| γ-GT, U/L | 253 (145-497) | 238 (120-464) | 0.275 |
| ALT, U/L | 68 (37-101) | 63 (37-110) | 0.536 |
| AST, U/L | 62 (40-94) | 61 (40-97) | 0.761 |
| ALB, g/L | 40.7 ± 4.0 | 40.9 ± 3.9 | 0.630 |
| TBIL, μmol/L | 15.3 (11.9-25.1) | 14.6 (11.2-20.1) | 0.095 |
| PLT, 10^9/L | 196 (147-236) | 209 (164-262) | 0.027 |
| INR | 0.99 (0.92-1.04) | 0.98 (0.94-1.04) | 0.690 |
| IgG, mg/dl a | 1610 (1340-2070) | 1610 (1346-1940) | 0.852 |
| IgM, mg/dl b | 360 (235-543) | 320 (229-504) | 0.191 |
| TBA, μmol/L c | 9.7 (4.5-18.8) | 8.9 (4.8-17.6) | 0.458 |
| CHE, KU/L d | 8.0 (6.6-9.4) | 7.9 (6.6-9.1) | 0.798 |
| CHOL, mmol/L e | 5.7 (4.7-6.9) | 5.5 (4.8-6.5) | 0.425 |
| TG, mmol/L e | 1.6 (1.2-2.5) | 1.3 (1.0-1.8) | 0.001 |
| LDL, mmol/L e | 3.1 (2.5-4.1) | 3.0 (2.5-3.7) | 0.355 |
| HDL, mmol/L e | 1.5 (1.2-2.0) | 1.5 (1.2-1.9) | 0.548 |
| UA, μmol/L e | 298 (235-367) | 270 (227-322) | 0.016 |
| BMI | 23.4 (20.9-25.8) | 22.9 (20.8-24.9) | 0.253 |
| Smoking habit, n (%) | 18 (11.5) | 28 (5.3) | 0.010 |
| Alcohol abuse, n (%) | 7 (4.5) | 23 (4.3) | 1.000 |
| Past HBV infection (%) f | 32 (42.1) | 87 (42.4) | 1.000 |
| Type 2 diabetes, n (%) | 28 (17.8) | 49 (9.3) | 0.006 |
| Concomitant fatty liver, n (%) g | 22 (14.0) | 45 (8.5) | 0.047 |
| Hypertension, n (%) | 43 (27.4) | 119 (22.5) | 0.239 |

GD, gallstone disease; AMA, anti-mitochondrial antibody; AMA-M2,anti-mitochondrial M2 antibody; ALP, alkaline phosphatase; γ-GT, gamma-glutamyl transpeptidase; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALB, albumin; GLO, globulin; TBIL, total bilirubin; PLT, platelet count; INR, international normalized ratio; IgG, immunoglobulin G; IgM, immunoglobulin M; TBA, total bile acid; GLU, fasting plasma glucose; CHE, cholinesterase; CHOL, total cholesterol; TG, triglycerides; LDL, low-density lipoprotein; HDL, high-density lipoprotein; UA, uric acid; BMI, body mass index.

a available in 477 patients; b available in 471 patients; c available in 370 patients; d available in 423 patients; e available in 312 patients; f available in 281 patients; g fatty liver was detected by routine abdominal ultrasonography.

*P* values refer to comparisons between non-cirrhotic PBC patients with and without gallstone diseases.