**Supplementary Material 1.** Effect of Add-On Therapy of DPP4 Inhibitors and SGLT2 Inhibitors on Clinical Parameters, Biochemical Variables and Adipokines

| **Parameters** | **Total** | | | | **Group 1** | | | **Group 2** | | | **P** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Baseline** | **Metformin (12 weeks)** | | **Metformin + DPP4 inhibitors/SGLT2 inhibitors (24 weeks)** | **Baseline** | **Metformin (12 weeks)** | **Metformin + DPP4 inhibitors (24 weeks)** | **Baseline** | **Metformin (12 weeks)** | **Metformin + SGLT2 inhibitors (24 weeks)** |
| Weight (kg) | 83.22 ± 10.22 | 83.07 ± 10.22\* | | 81.37 ± 10.08\* | 80.40 ± 8.87 | 80.34 ± 8.91 | 79.05 ± 8.87† | 84.63 ± 10.74 | 84.44 ± 10.62† | 82.53 ± 10.50† |  |
| Change | -0.13 (-0.20, -0.05), -1.60 (-1.85, -1.35) | | | | -0.07 (-0.21, -0.08), -1.29 (-1.83, -0.76) | | | -0.18 (-0.27, -0.09), -1.91 (-2.16, -1.67) | | | 0.084 |
| BMI (kg/m2) | 29.71 ± 2.71 | 29.66 ± 2.69\* | 29.07 ± 2.66\* | | 29.27 ± 2.34 | 29.23 ± 2.29 | 28.83 ± 2.33† | 29.93 ± 2.87 | 29.87 ± 2.86† | 29.07 ± 2.65† |  |
| Change | -0.05 (-0.08, -0.02), -0.54 (-0.65, -0.43) | | | | -0.03 (-0.08, 0.02), -0.40 (-0.68, -0.12) | | | -0.06 (-0.09, -0.03), -0.68 (-0.77, -0.59) | | | 0.357 |
| WC (cm) | 97.63 ± 4.72 | 97.43 ± 4.68\* | 94.82 ± 4.63\* | | 96.04 ± 4.75 | 95.85 ± 4.71† | 93.74 ± 4.71† | 98.43 ± 4.54 | 98.22 ± 4.49† | 95.36 ± 4.53† |  |
| Change | -0.20 (-0.25, -0.15), -2.49 (-2.67, -2.31) | | | | -0.19 (-0.28, -0.10), -2.11 (-2.41, -1.81) | | | -0.20 (-0.26, -0.14), -2.87 (-3.08, -2.66) | | | 0.04†† |
| Systolic BP (mm Hg) | 120.58 ± 8.77 | 120.11 ± 6.75 | 115.33 ± 5.70\* | | 119.40 ± 9.76 | 118.67 ± 7.06 | 114.17 ± 6.44† | 121.17 ± 8.25 | 120.83 ± 6.52 | 115.33 ± 5.70† |  |
| Change | -0.53 (-1.61, -0.55), -4.71 (-5.60, -3.82) | | | | -0.73 (-2.64, 1.17), -4.50 (-6.04, -2.96) | | | -0.33 (-1.57, 0.91), -4.92 (-5.95, -3.88) | | | 0.215 |
| Diastolic BP (mm Hg) | 76.76 ± 6.46 | 78.11 ± 6.16\* | 74.89 ± 4.62\* | | 77.27 ± 7.75 | 77.67 ± 7.04 | 75.33 ± 5.07† | 76.50 ± 6.46 | 78.33 ± 5.72† | 74.67 ± 4.40† |  |
| Change | 1.12 (0.17, 2.06), -3.00 (-4.06, -1.94) | | | | 0.40 (-0.99, 1.79), -2.33 (-4.23, -0.43) | | | 1.83 (0.66, 3.00), -3.67 (-4.87, -2.46) | | | 0.832 |
| FPG (mmol/L) | 13.71 ± 1.02 | 13.21 ± 1.02\* | 11.29 ± 0.77\* | | 13.16 ± 0.95 | 12.84 ± 0.95 | 11.37 ± 0.85† | 13.99 ± 0.95 | 13.40 ± 1.02† | 11.26 ± 0.73† |  |
| Change | -0.45 (-0.66, -0.25), -1.8 (-2.0, -1.6) | | | | -0.31 (-0.74, 0.11), -1.47 (-1.64, -1.30) | | | -0.60 (-0.80, -0.40), -2.14 (-2.38, -1.91) | | | 0.02†† |
| PPBG (mmol/L) | 18.48 ± 1.27 | 17.91 ± 1.25\* | 15.04 ± 1.58\* | | 17.70 ± 1.06 | 17.23 ± 1.27† | 14.86 ± 1.79† | 18.87 ± 1.19 | 18.25 ± 1.10† | 15.12 ± 1.48† |  |
| Change | -0.57 (-0.80, -0.35), -2.9 (-3.1, -2.4) | | | | -0.48 (-0.91, -0.05), -2.36 (-2.89, -1.83) | | | -0.62 (-0.89, -0.35), -3.13 (-3.63, -2.63) | | | 0.001†† |
| HbA1c (% (mmol/mol)) | 9.25 ± 0.40 (77.64 ± 4.44) | 9.24 ± 0.41\* (76.42 ± 4.51) | 8.03 ± 0.39\* (64.32 ± 4.21) | | 9.04 ± 0.30 (75.33 ± 3.22) | 8.96 ± 0.34† (74.37 ± 3.75) | 8.00 ± 0.35† (64.03 ± 3.76) | 9.36 ± 0.41 (78.80 ± 4.54) | 9.24 ± 0.41† (77.45 ± 4.53) | 8.05 ± 0.41† (64.32 ± 4.21) |  |
| Change | -0.10 (-0.14, -0.06), -1.07 (-1.15, -1.00)  -1.20 (-1.62, -0.69), (-11.66 (-12.48, -10.8) | | | | -0.08 (-0.14, -0.02), -0.96 (-1.04, -0.89)  -0.97 (-1.72, -0.21), -10.33 (-11.25, -9.42) | | | -0.12 (-0.17, -0.07), -1.19 (-1.28, -1.09)  -1.35 (-1.91, -0.80), -12.98 (-14.06, -11.90) | | | 0.008†† |
| TC (mmol/L) | 5.37 ± 0.30 | 5.27 ± 0.28\* | 4.97 ± 0.26\* | | 5.33 ± 0.33 | 5.21 ± 0.29† | 4.95 ± 0.29† | 5.39 ± 0.29 | 5.30 ± 0.27† | 4.98 ± 0.24† |  |
| Change | -0.10 (-0.12, -0.08), -0.29 (-0.33, -0.26) | | | | -0.12 (-0.16, -0.08), -0.26 (-0.30, -0.22) | | | -0.09 (-0.11, -0.06), -0.33 (-0.37, -0.28) | | | 0.311 |
| TG (mmol/L) | 2.20 ± 0.15 | 2.15 ± 0.14\* | 2.00 ± 0.13\* | | 2.13 ± 0.15 | 2.07 ± 0.13† | 1.96 ± 0.13† | 2.24 ± 0.15 | 2.19 ± 0.13† | 2.02 ± 0.13† |  |
| Change | -0.05 (-0.06, -0.04), -0.14 (-0.15, -0.12) | | | | -0.05 (-0.07, -0.03), -0.11 (-0.13, -0.09) | | | -0.05 (-0.06, -0.03), -0.17 (-0.19, -0.15) | | | 0.002†† |
| HDL-C (mmol/L) | 1.18 ± 0.08 | 1.22 ± 0.08\* | 1.33 ± 0.09\* | | 1.21 ± 0.06 | 1.26 ± 0.06† | 1.36 ± 0.07† | 1.17 ± 0.09 | 1.20 ± 0.08† | 1.32 ± 1.0† |  |
| Change | 0.04 (0.03, 0.05), 0.11 (0.09, 0.12) | | | | 0.05 (0.02, 0.08), 0.10 (0.07, 0.13) | | | 0.03 (0.01, 0.05), 0.11 (0.09, 0.13) | | | 0.008†† |
| LDL-C (mmol/L) | 3.17 ± 0.32 | 3.05 ± 0.29\* | 2.71 ± 0.27\* | | 3.13 ± 0.32 | 2.99 ± 0.30† | 2.68 ± 0.29† | 3.19 ± 0.31 | 3.08 ± 0.29† | 2.73 ± 0.25† |  |
| Change | -0.12 (-0.14, -0.10), -0.33 (-0.36, -0.30) | | | | -0.13 (-0.18, -0.09), -0.31 (-0.37, -0.25) | | | -0.11 (-0.14, -0.08), -0.36 (-0.40, -0.32) | | | 0.308 |
| Creatinine (μmol/L) | 91.39 ± 19.16 | 92.93 ± 18.68 | 77.48 ± 15.77\* | | 80.13 ± 18.77 | 82.90 ± 17.51 | 84.63 ± 16.38 | 97.02 ± 16.85 | 97.95 ± 17.29 | 73.90 ± 14.29† |  |
| Change | -1.85 (-1.12, 4.82), -11.16 (-14.12, -8.20) | | | | 2.77 (-1.72, 7.26), 1.73 (-2.92, 6.39) | | | 0.93 (-2.70, 4.57), -24.05 (-27.62, -20.48) | | | 0.041†† |
| Albumin (g/L) | 45.29 ± 3.15 | 45.28 ± 3.09 | 45.41 ± 3.06 | | 45.43 ± 3.21 | 45.40 ± 3.21 | 45.57 ± 3.14 | 45.22 ± 3.14 | 45.22 ± 3.05 | 45.33 ± 3.05 |  |
| Change | -0.02 (-0.20, 0.17), 0.14 (-0.03, 0.32) | | | | -0.03 (-0.34, 0.28), 0.17 (-0.13, 0.47) | | | 0.00 (-0.22, 0.22), 0.12 (-0.09, 0.32) | | | 0.761 |
| AST (IU/L) | 30.61 ± 6.77 | 31.00 ± 6.59 | 30.40 ± 6.51 | | 30.60 ± 6.76 | 30.20 ± 5.85 | 30.00 ± 5.86 | 30.62 ± 6.84 | 31.40 ± 6.94 | 30.60 ± 6.85 |  |
| Change | 0.19 (-0.95, 1.34), -0.50 (-1.70, 0.71) | | | | -0.40 (-2.48, 1.68), -0.20 (-2.62, 2.23) | | | 0.78 (-0.50, 2.1), -0.80 (-2.07, 0.47) | | | 0.658 |
| ALT (IU/L) | 25.90 ± 5.73 | 25.66 ± 5.80 | 25.53 ± 5.61 | | 26.87 ± 6.20 | 26.00 ± 5.90 | 26.27 ± 5.43 | 25.42 ± 5.47 | 25.48 ± 5.80 | 25.17 ± 5.70 |  |
| Change | -0.40 (-1.24, 0.44), -0.03 (-1.02, 0.97) | | | | -0.87 (-2.48, 0.75), 0.27 (-1.16, 1.70) | | | 0.07 (-0.85, 0.98), -0.32 (-1.55, 0.92) | | | 0.394 |
| RBP4 (μg/mL) | 110.01 ± 19.53 | 109.93 ± 19.26 | 104.22 ± 19.17\* | | 105.53 ± 17.10 | 105.47 ± 17.02 | 100.33 ± 17.23† | 112.25 ± 20.41 | 112.17 ± 20.04 | 106.17 ± 19.92† |  |
| Change | -0.08 (-0.42, 0.27), -5.57 (-6.20, -5.04) | | | | -0.07 (-0.58, 0.45), -5.13 (-5.94, -4.33) | | | -0.08 (-0.52, 0.35), -6.00 (-6.65, -5.35) | | | 0.138 |
| FABP4 (ng/mL) | 50.64 ± 7.04 | 50.72 ± 7.00 | 47.86 ± 6.85\* | | 48.22 ± 6.16 | 48.34 ± 5.98 | 46.24 ± 6.02† | 51.85 ± 7.20 | 51.91 ± 7.23 | 48.68 ± 7.15† |  |
| Change | 0.09 (-0.05, 0.23), -2.67 (-2.97, -2.37) | | | | 0.12 (-0.08, 0.32), -2.10 (-2.42, -1.79) | | | 0.06 (-0.12, 0.23), -3.2 (-3.63, -2.84) | | | 0.038†† |
| Visfatin (ng/mL) | 10.06 ± 1.90 | 10.12 ± 1.86\* | 8.53 ± 1.65\* | | 9.72 ± 1.65 | 9.74 ± 1.65 | 8.35 ± 1.47† | 10.24 ± 2.00 | 10.31 ± 1.94† | 8.62 ± 1.74† |  |
| Change | 0.05 (0.00, 0.10), -1.54 (-1.68, -1.41) | | | | 0.02 (-0.07, 0.11), -1.39 (-1.58, -1.20) | | | 0.07 (0.02, 0.12), -1.69 (-1.86, -1.53) | | | 0.265 |
| Adiponectin (μg/mL) | 8.66 ± 2.75 | 8.65 ± 2.71 | 12.79 ± 2.63\* | | 9.12 ± 2.53 | 9.12 ± 2.50 | 12.27 ± 2.65† | 8.43 ± 2.85 | 8.42 ± 2.81 | 13.05 ± 2.60† |  |
| Change | -0.01 (-0.07, 0.06), 3.89 (3.67, 4.12) | | | | 0.00 (-0.12, 0.12), 3.15 (2.89, 3.42) | | | -0.01 (-0.08, 0.06), 4.63 (4.33, 4.93) | | | 0.736 |

Data are means ± SD, or 95% CI. P < 0.05 was considered significant. \*P < 0.05 (comparison between before treatment and after treatment in all subjects). †P < 0.05 (comparison between before treatment and after treatment in each group). ††P < 0.05 (comparison between DPP4 inhibitors group and SGLT2 inhibitors group). DPP4: dipeptidyl peptidase 4; SGLT2: sodium-glucose cotransporter 2; BMI: body mass index; WC: waist circumference; BP: blood pressure; FPG: fasting plasma glucose; PPBG: postprandial blood glucose; HbA1c: hemoglobin A1c; TC: total cholesterol; TG: triglycerides; HDL-C: high-density lipoprotein cholesterol; LDL-C: low-density lipoprotein cholesterol; AST: aspartate aminotransferase; ALT: alanine aminotransferase; RBP4: retinol binding protein 4; FABP4: fatty acid binding protein 4.