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| **Supplementary Table 1.** Anthropometric, fasting, and postprandial parameters in the two treatment groups at the beginning and after 3 months of treatment. | | | | | | |
|  | **Control (n=15)** | | **Exenatide (n=15)** | | | ***p***§ |
|  | baseline | 3 months | | baseline | 3 months |  |
| *Anthropometric parameters* |  |  | |  |  |  |
| Gender (*n,* male/female) | 3/12 | - | | 1/14 | - | 0.999 |
| Age (years) | 46±7 | - | | 47±8 | - | 0.946 |
| Body weight (kg) | 120±13 | 118±17 | | 120±22 | 114±21\* | **0.039** |
| BMI (kg/m2) | 45±3 | 44±5 | | 45±8 | 43±6\* | **0.043** |
| Waist circumference (cm) | 131±9 | 128±13 | | 127±12 | 119±9\* | 0.159 |
| Fat-free mass (kg) | 57±8 | 58±7 | | 61±12 | 59±12 | 0.200 |
| Fat mass (kg) | 63±10 | 60±13\* | | 60±11 | 55±12\* | 0.097 |
| *Glycemic control* |  |  | |  |  |  |
| HbA1c (%) | 5.8±0.3 | 5.8±0.3 | | 5.8±0.4 | 5.7±0.4 | 0.078 |
| HbA1c (mmol/L) | 40±2 | 40±2 | | 40±3 | 39±3 | 0.078 |
| *Fasting parameters* |  |  | |  |  |  |
| HOMA-IR | 4.6±2.3 | 4.4±2.2 | | 5.1±2.5 | 4.3±2.2\* | 0.212 |
| Glucose (mmol/L) | 5.5±0.5 | 5.5±0.6 | | 5.3±0.2 | 5.3±0.4 | 0.509 |
| Insulin (pmol/L) | 98±55 | 100±59 | | 115±59 | 94±48\* | 0.054 |
| GLP-1 (pg/ml) | 146±254 | 137±240 | | 72±84 | 61±38 | 0.268 |
| GIP (pg/ml) | 47±23 | 54±39 | | 62±58 | 54±34 | 0.263 |
| Glucagon (pmol/L) | 26±15 | 26±14 | | 23±7 | 24±7 | 0.970 |
| Triglycerides (mg/dL) | 93±34 | 92±35 | | 99±32 | 97±40 | 0.904 |
| Apo A1(mg/dL) | 150±36 | 147±25 | | 137±33 | 132±32 | 0.844 |
| Apo B (mg/dL) | 58±15 | 60±12 | | 67±16 | 66±19 | 0.732 |
| HDL Cholesterol (mg/dL) | 52±11 | 49±11 | | 44±10 | 41±9 | 0.660 |
| LDL Cholesterol (mg/dL) | 121±31 | 126±34 | | 126±26 | 120±25 | 0.117 |
| VLDL Cholesterol (mg/dL) | 19±6 | 19±7 | | 19±6 | 20±9 | 0.533 |
| FFA (µM) | 691±180 | 616±159 | | 720±149 | 699±197 | 0.425 |
| TAG # (µM) | 636±171 | 611±134 | | 650±182 | 611±172 | 0.800 |
| DAG # (µM) | 433±224 | 497±269 | | 506±301 | 451±312 | 0.142 |
| CER# (µM) | 6±2 | 6±3 | | 6±2 | 6±1 | 0.213 |
| SM# (µM) | 137±33 | 144±36 | | 146±30 | 147±26 | 0.651 |
| PC# (µM) | 577±138 | 590±127 | | 605±120 | 614±114 | 0.902 |
| LPC# (µM) | 156±21 | 156±26 | | 168±21 | 160±19\* | 0.152 |
| *Postprandial parameters* |  |  | |  |  |  |
| Glucose AUC0-180(mmol/l·min) | 1302±157 | 1263±137 | | 1225±124 | 1046±214\* | **0.019** |
| Glucose AUC180-360(mmol/l·min) | 977±105 | 951±203 | | 980±97 | 993±141 | 0.605 |
| Insulin AUC0-180(pmol/L·min) | 96332±53564 | 89693±40792 | | 102943±56977 | 58106±37475\* | **0.038** |
| Insulin AUC180-360(pmol/L·min) | 35971±24906 | 41064±31086 | | 38116±18883 | 48061±32704 | 0.477 |
| OGIS0-180(ml·min-1·m-2) | 316±42 | 308±52 | | 310±39 | 359±43\* | **0.002** |
| GLP-1 AUC0-180 (pg/L·min) | 38417±41569 | 37311±43057 | | 20754±11139 | 13189±7825\* | 0.146 |
| GLP-1 AUC180-360 (pg/L·min) | 34318±41699 | 29825±33000 | | 16730±7599 | 15593±7985 | 0.383 |
| GIP AUC0-180 (pg/L·min) | 55244±20635 | 54470±16887 | | 62439±24979 | 37667±28052\* | **0.017** |
| GIP AUC180-360 (pg/L·min) | 40688±17444 | 40653±14647 | | 40626±14471 | 44027±19250 | 0.604 |
| Glucagon AUC0-180 (pmol/L·min) | 4821±3453 | 4823±3107 | | 4931±1694 | 3830±1086\* | 0.096 |
| Glucagon AUC180-360 (pmol/L·min) | 5447±4341 | 5016±3430 | | 4924±1630 | 3990±944 | 0.430 |
| Data are presented as mean ± standard deviation. No differences at baseline between group, unpaired t-test. \*p<0.05 vs baseline; §for between-treatments differences in variables changes (3 months *minus* baseline), ANCOVA general linear model. #sum of the concentrations of the single species. BMI: body mass index; HbA1c: glycated hemoglobin; HOMA-IR: homeostatic model assessment for insulin resistance; GLP-1: glucagon-like peptide 1; GIP: glucose‐dependent insulinotropic polypepide; Apo: apolipoprotein; HDL: high density lipoprotein; LDL: low density lipoprotein; VLDL: very low-density lipoprotein; FFA: free fatty acid; TAG: triacyclglycerols; DAG: diacylglycerols; CER: ceramides; SM: sphingomyelins; PC: phosphatidylcholines; LPC: lyso-phosphatidylcholines; OGIS: oral glucose insulin sensitivity; AUC: area under the curve. | | | | | | |