

Table 1. Comparison of Demographic Factors and Baseline, Post-operative, Change Levels of Glucose Homeostasis, Interleukin-1 β , Gut Hormones, and Adipokines between T2DM Patients undergoing Laparoscopic GB and SG

	GB (n = 16)	SG (n = 16)	<i>P</i> value ^a
Age (years)	44.3 \pm 8.6	46.3 \pm 8.0	0.515
Sex (M/F)	5/11	6/10	1.000
Smoking (Yes/No)	6/10	3/13	0.432
T2DM duration (years)	6.0 \pm 5.5	6.9 \pm 5.4	0.564
Weight (kg)			
Baseline	77.2 \pm 10.0	83.7 \pm 11.5	0.097
Post-operative	60.1 \pm 9.5***	65.9 \pm 7.8***	0.406
Change	-17.1 \pm 5.0	-17.8 \pm 7.0	0.751
BMI (kg/m ²)			
Baseline	29.1 \pm 3.1	31.0 \pm 2.9	0.078
Post-operative	22.6 \pm 2.5**	24.4 \pm 2.5***	0.033
Change	-6.5 \pm 2.3	-6.6 \pm 2.4	0.903
Waist (cm)			
Baseline	97.5 \pm 9.6	99.6 \pm 14.0	0.417
Post-operative	79.2 \pm 7.6**	85.3 \pm 5.7**	0.011
Change	-18.3 \pm 6.5	-14.4 \pm 13.2	0.376
Systolic blood pressure (mmHg)			
Baseline	130.3 \pm 9.4	127.2 \pm 9.6	0.358
Post-operative	119.1 \pm 17.7*	123.3 \pm 9.7	0.073
Change	-11.2 \pm 18.1	-3.9 \pm 15.1	0.225
Total cholesterol (mg/dL)			
Baseline	204.0 \pm 41.4	217.1 \pm 59.4	0.474
Post-operative	160.4 \pm 28.9**	206.1 \pm 66.3	0.008
Change	-43.6 \pm 28.5	-11.0 \pm 75.2	0.122
HDL cholesterol (mg/dL)			
Baseline	47.2 \pm 9.7	42.3 \pm 6.46	0.099
Post-operative	49.3 \pm 8.0	46.1 \pm 8.4	0.287
Change	2.1 \pm 9.1	3.9 \pm 8.6	0.568
Fasting blood glucose (mg/dL)			
Baseline	191.6 \pm 76.8	232.4 \pm 80.6	0.153
Post-operative	99.3 \pm 19.7***	138.4 \pm 52.6**	0.007
Change	-92.3 \pm 83.2	-94.0 \pm 93.2	0.957
HbA1c (%)			
Baseline	9.9 \pm 1.8	10.1 \pm 2.2	0.958

Post-operative	5.8 ± 0.6***	7.2 ± 1.6***	0.003
Change	-4.1 ± 2.0	-2.9 ± 2.4	0.128
Insulin (μU/mL)			
Baseline	16.8 ± 36.5	16.8 ± 15.4	0.196
Post-operative	4.6 ± 3.9*	4.7 ± 2.7**	0.361
Change	-12.2 ± 37.2	-12.1 ± 14.3	0.122
C-peptide (ng/mL)			
Baseline	2.5 ± 1.1	3.3 ± 1.4	0.082
Post-operative	1.6 ± 1.1*	1.7 ± 0.5***	0.287
Change	-0.8 ± 1.3	-1.6 ± 1.4	0.123
HOMA-IR			
Baseline	9.3 ± 23.1	8.5 ± 6.5	0.055
Post-operative	1.2 ± 1.2**	1.7 ± 1.3***	0.101
Change	-8.1 ± 23.3	-6.8 ± 5.9	0.060
Insulinogenic index			
Baseline	0.13 ± 0.11	0.16 ± 0.11	0.239
Post-operative	0.25 ± 0.20*	0.20 ± 0.13	0.464
Change	0.12 ± 0.19	0.05 ± 0.12	0.498
Interleukin-1β (pg/mL)			
Baseline	1.26 ± 0.90	0.83 ± 0.41	0.341
Post-operative	0.40 ± 0.29**	0.76 ± 0.64	0.053
Change	-0.86 ± 1.02	-0.07 ± 0.76	0.019
hsCRP (mg/dL)			
Baseline	0.42 ± 0.31	0.25 ± 0.18	0.171
Post-operative	0.09 ± 0.10**	0.10 ± 0.13**	0.752
Change	-0.33 ± 0.32	-0.15 ± 0.21	0.132
Leukocyte (/mm ³)			
Baseline	7136 ± 1864	7362 ± 2123	0.751
Post-operative	6219 ± 1898	5686 ± 1736**	0.414
Change	-917 ± 1998	-1676 ± 1930	0.283
Acyl ghrelin (pg/mL)			
Baseline	21.3 ± 7.8	25.1 ± 7.4	0.168
Post-operative	24.5 ± 12.9	13.9 ± 6.7**	0.010
Change	3.2 ± 14.7	-11.2 ± 11.2	0.004
Des-acyl ghrelin (pg/mL)			
Baseline	61.9 ± 48.4	56.1 ± 52.0	0.616
Post-operative	40.9 ± 25.8	16.6 ± 12.6**	0.003
Change	-21.0 ± 58.1	-40.0 ± 51.4	0.258

CCK (ng/mL)			
Baseline	1.19 ± 0.42	1.07 ± 0.70	0.128
Post-operative	0.85 ± 0.36*	1.02 ± 0.55	0.423
Change	-0.34 ± 0.63	-0.50 ± 0.68	0.222
GIP (ng/mL)			
Baseline	0.15 ± 0.07	0.25 ± 0.24	0.196
Post-operative	0.47 ± 0.78	0.31 ± 0.48	0.867
Change	0.32 ± 0.81	0.06 ± 0.48	0.763
GLP-1 (ng/mL)			
Baseline	5.4 ± 4.7	5.0 ± 3.2	0.926
Post-operative	7.0 ± 2.0	6.6 ± 3.1	0.679
Change	1.6 ± 4.6	1.6 ± 4.9	0.996
PYY (ng/mL)			
Baseline	1.6 ± 0.7	2.0 ± 0.7	0.095
Post-operative	5.1 ± 2.4*	5.3 ± 3.6**	0.590
Change	3.5 ± 2.5	3.3 ± 3.5	0.309
Leptin (ng/mL)			
Baseline	5426 ± 5710	8840 ± 11469	0.724
Post-operative	5456 ± 3120	7137 ± 4888	0.255
Change	30 ± 6289	-1703 ± 12041	0.734
Adiponectin (µg/mL)			
Baseline	3.7 ± 1.5	4.0 ± 1.8	0.642
Post-operative	11.7 ± 5.8***	11.7 ± 8.1**	0.696
Change	8.0 ± 5.2	7.7 ± 8.5	0.429

AUC, the area under the curve; BMI, body mass index; CCK, cholecystokinin; GB, gastric bypass; GIP, gastric inhibitory peptide; GLP-1, glucagon-like peptide-1; HbA1c, glycated hemoglobin; HDL, high-density lipoprotein; HOMR-IR, homeostatic model assessment-insulin resistance; hsCRP, high-sensitivity C-reactive protein; SG, sleeve gastrectomy; T2DM, type 2 diabetes mellitus; PYY, peptide YY.

^a Between the GB and SG group.

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, compared to baseline.