

SUPPLEMENTAL TABLES

Supplemental Table 1. Baseline demographics, anthropometric, and fasting metabolic measurements before/ after Diet, RYGB, or VSG								
Variable	Diet		RYGB		VSG		Mixed Effects Model <i>P</i>	
	Pre	Post	Pre	Post	Pre	Post	Time	G X T
N	14		11		15			
Age (yrs.)	48.9 ± 12.0		43.2 ± 9.0		38.1 ± 9.0 ^a			
Sex (Male/Female)	2/12		5/6		1/14			
T2D (Yes/No)	3/11		5/6		4/11			
Weight (kg)	120.1 ± 19.8	115.4 ± 18.9	132.2 ± 31.2	125.2 ± 28.8	129.2 ± 23.3	122.1 ± 23.2	<0.0001	0.013
BMI (kg/m²)	42.8 ± 5.8	41.1 ± 5.6	45.1 ± 8.6	42.5 ± 8.1	47.8 ± 7.4	45.2 ± 7.4	<0.0001	0.034
FM (kg)	62.3 ± 14.6	61.1 ± 14.1	58.8 ± 9.0	56.6 ± 9.1	70.2 ± 14.9	67.6 ± 15.0	<0.0001	0.038
FFM (kg)	57.7 ± 8.8	54.3 ± 8.5	64.9 ± 12.3	60.8 ± 11.5	59.0 ± 10.1	54.4 ± 9.9	<0.0001	0.202
Fasting FFA (mmol/L)	0.6 ± 0.2	0.7 ± 0.1	0.6 ± 0.2	0.7 ± 0.2	0.5 ± 0.2	0.6 ± 0.2	<0.0001	0.619
Fasting glucose (mg/dl)	115.1 ± 35.3	97.6 ± 26.5	111.7 ± 31.1	95.4 ± 26.8	107.3 ± 19.7	92.3 ± 16.3	<0.0001	0.902
Fasting insulin (μU/ml)	19.7 ± 6.6	10.6 ± 3.6	29.0 ± 21.6	13.6 ± 8.7	24.9 ± 14.0	14.7 ± 10.7	<0.0001	0.404
EGP basal (mg·kg⁻¹·min⁻¹)	1.4 ± 0.3	1.2 ± 0.3	1.4 ± 0.4	1.2 ± 0.3	1.3 ± 0.3	1.0 ± 0.2	<0.0001	0.766
EGP clamp (mg·kg⁻¹·min⁻¹)	0.42 ± 0.37	0.27 ± 0.34	0.23 ± 0.22	0.15 ± 0.14	0.25 ± 0.25	0.18 ± 0.27	0.049	0.753
Rd (mg·kg⁻¹·min⁻¹)	3.7 ± 1.7	4.1 ± 1.4	2.6 ± 1.5	3.2 ± 1.3	3.3 ± 1.9	2.9 ± 0.9	0.249	0.064
Rd/I (mg·kg⁻¹·min⁻¹·μUml⁻¹)	19.6 ± 10.1	24.9 ± 9.7	14.9 ± 8.9	20.5 ± 8.2	17.9 ± 10.4	17.3 ± 6.5	0.011	0.087
Rd/I (mg·kgFFM⁻¹·min⁻¹·μUml⁻¹)	0.33 ± 0.20	0.45 ± 0.23	0.25 ± 0.16	0.35 ± 0.18	0.32 ± 0.20	0.33 ± 0.13	0.003	0.120
Rd (mg·min⁻¹·μUml⁻¹)	40.8 ± 21.3	53.8 ± 24.2	30.4 ± 19.0	40.8 ± 18.8	39.1 ± 23.3	38.5 ± 13.4	0.017	0.133
Insulin clamp (μU/ml)	193.3 ± 28.0	170.2 ± 33.3	189.8 ± 47.2	160.8 ± 19.2	194.9 ± 43.6	176.4 ± 33.8	0.0004	0.780
MCR-I (ml·min⁻¹·m⁻²)	423.1 ± 69.2	487.2 ± 98.4	443.2 ± 97.9	503.8 ± 58.2	427.9 ± 69.2	487.2 ± 98.4	0.001	0.794

Data are mean ± SD for n=14 Diet (13 for EGP basal and clamp, M, M/I, Insulin Clamp, and MCRI), n = 11 RYGB (10 for FM and FFM), and n=15 VSG. *P* value listed is for the group (Diet or RYGB) by time (Pre or Post) interaction effect (GxT) or the overall effect of time (T). BMI, body mass index; FM, fat mass; FFM, fat-free mass; FFA, free fatty acids; EGP, endogenous glucose production; M, insulin-stimulated glucose disposal; M/I, insulin-stimulated glucose disposal divided by Insulin clamp, MCR-I, metabolic clearance rate of insulin.

Supplemental Table 2. Plasma hormone levels before and after Diet or RYGB

Variable	Diet		RYGB		VSG		Mixed Effects Model <i>P</i>	
	Pre	Post	Pre	Post	Pre	Post	Time	G X T
Leptin (pg/ml)	38668 ± 5680	31281 ± 3917	27501 ± 3720	15682 ± 2636	42854.9 ± 22169	27147 ± 13423	<0.001	0.333
Adiponectin (pg/ml)	31350 ± 3520	28786 ± 3660	29072 ± 5878	27850 ± 4826	33086 ± 23240	29663 ± 17301	0.085	0.809
MCP-1 (pg/ml)	103.8 ± 7.1	108.6 ± 6.1	111.9 ± 9.0	109.3 ± 15.4	92.6 ± 33.7	98.2 ± 35.6	0.572	0.744
PAI-1 (pg/ml)	78.6 ± 10	71.0 ± 6.7	86.2 ± 17.6	82.2 ± 32.0	121.5 ± 174.1	65.7 ± 38.5	0.359	0.359
IL-8 (pg/ml)	3.7 ± 0.3	4.3 ± 0.4	5.1 ± 1.1	7.3 ± 1.1	3.4 ± 1.4	4.2 ± 1.7	<0.001	0.086
IL-6 (pg/ml)	3.1 ± 0.5	3.8 ± 0.6	9.6 ± 5.2	6.3 ± 2.0	9.6 ± 16.5	6.3 ± 6.3	0.605	0.478
Resistin (pg/ml)	80.8 ± 3.9	85.7 ± 5.2	71.9 ± 8.2	87.7 ± 11.7	106.3 ± 85.0	91.9 ± 23.5	0.798	0.308
TNFα (pg/ml)	2.4 ± 0.2	2.9 ± 0.3	3.0 ± 0.3	4.3 ± 0.9	2.5 ± 1.6	2.9 ± 1.7	0.006	0.279
IL-1β (pg/ml)	1.5 ± 0.6	1.1 ± 0.3	2.3 ± 0.7	3.9 ± 2.5	2.6 ± 4.3	1.2 ± 1.4	0.923	0.260
Desacyl ghrelin (pg/ml)	20.2 ± 3.1	24.3 ± 4.8	23.3 ± 3.9	26.7 ± 7.1	55.4 ± 32.2	8.5 ± 5.4	0.303	0.004
Acyl-ghrelin (pg/ml)	65.3 ± 13.6	51.4 ± 7.1	43.5 ± 8.9	13.1 ± 2.9	43.5 ± 29.5	13.1 ± 9.5	<0.001	0.025
Acyl/Desacyl-ghrelin ratio	4.0 ± 0.9	3.3 ± 0.7	2.2 ± 0.4	0.7 ± 0.2	1.8 ± 0.9	0.6 ± 0.4	0.001	0.614
FGF-19 (pg/ml)	76.6 ± 15.9	99.0 ± 15.4	83.7 ± 10.1	106.6 ± 26.0	124.6 ± 134.2	94.4 ± 48.9	0.727	0.197
FGF-21 (pg/ml)	428.1 ± 285.3	324.1 ± 249.7	300.6 ± 277.7	425.0 ± 465.1	345.6 ± 341.4	363.9 ± 435	0743	0.084

Data are expressed as mean ± SD (n=14 Diet, n=11 RYGB, and n=15 VSG). GxT, group by time interaction.

Supplemental Table 3. Adipokine levels in subcutaneous adipose tissue interstitial fluid before and after Diet or RYGB

Variable	Diet		RYGB		VSG		Mixed Effects Model <i>P</i>	
	Pre	Post	Pre	Post	Pre	Post	Time	G X T
Leptin (pg/ml)	2517 ± 543	1520 ± 484	2547 ± 737	857 ± 382	3012 ± 766	1397 ± 396	0.008	0.819
Adiponectin (pg/ml)	4304 ± 2108	632.1 ± 2323	2467 ± 1016	464 ± 235	2154 ± 1443	283 ± 104	0.022	0.712
MCP-1 (pg/ml)	2680 ± 683	3131 ± 891	2488 ± 838	2342 ± 883	1639.2 ± 428.5	2852.6 ± 544.8	0.410	0.664
PAI-1 (pg/ml)	151.5 ± 45.4	83 ± 24.2	133.6 ± 37.6	65.5 ± 20.1	137.4 ± 26.4	66.4 ± 11.8	0.002	0.998
IL-8 (pg/ml)	63.8 ± 16.2	63.0 ± 14.1	62.7 ± 21.0	50.7 ± 16.1	42.2 ± 14.7	63.0 ± 14.2	0.903	0.677
IL-6 (pg/ml)	530.8 ± 167.2	308.6 ± 96.7	380.4 ± 110.1	372.0 ± 127.4	297.3 ± 69.9	366.7 ± 81.1	0.520	0.281
Resistin (pg/ml)	6681 ± 4160	2042 ± 544	2525 ± 619	2208 ± 1106	2407.9 ± 544.6	3848.4 ± 1120.9	0.448	0.204

Data are expressed as mean ± SEM (n=11 Diet, n=7 RYGB, and n=13 VSG). GxT, group by time interaction.