

## **APPENDIX**

### **Bariatric Surgery**

#### *Roux-&-Y Gastric Bypass*

*Roux-&-Y Gastric Bypass* (RYGB) involves the use of a surgical stapler to create a small and vertically oriented gastric pouch with a volume usually < 30 ml. The upper pouch is completely divided by the gastric remnant and is anastomosed to the jejunum, 75 cm distally to the Treitz's ligament, through a narrow gastrojejunal anastomosis in a Roux-en-Y fashion. Bowel continuity is restored by an entero-entero anastomosis, between the excluded biliary limb and the alimentary limb, performed at 100 cm from the gastrojejunostomy.

The operation was performed in laparoscopy.

#### *Sleeve Gastrectomy*

*Sleeve Gastrectomy* (SG) was performed according to the technique described by Gagner (1). The patient, is positioned in 30° anti-Trendelenburg position with legs abducted. Five trocars are used. The division of the vascular supply of the gastric greater curvature starts at 6 cm from the pylorus and proceeds upwards until the angle of His. The SG is created using a linear stapler with two sequential 4.8/60-mm green load firings for the antrum, followed by two or three sequential 3.5/60-mm blue loads for the remaining gastric corpus and fundus. The stapler is applied alongside a 48-Fr calibrating bougie. The resection line is performed avoiding the “critical area” by resecting the fundus 1.5 cm from the angle of His. Staple lines are buttressed with bovine pericardial strips. The resected stomach is grasped at the antral tip by a laparoscopic grasper and retrieved through one of the trocar sites. A methylene blue dye test by a nasogastric tube is routinely performed at the end of the procedure. The residual gastric remnant capacity is 60–80 ml.

Drains are not routinely placed, and the nasogastric tube is removed at the end of the procedure. Upper gastrointestinal contrast (Gastrografin) study is performed on the first postoperative day.

1. Gagner M, Gumbs AA, Milone L, Yung E, Goldenberg L, Pomp A. Laparoscopic sleeve gastrectomy for the super-super-obese (body mass index  $>60 \text{ kg/m}^2$ ). *Surg Today* 2008;38:399-403.

### **Appendix figure legends**

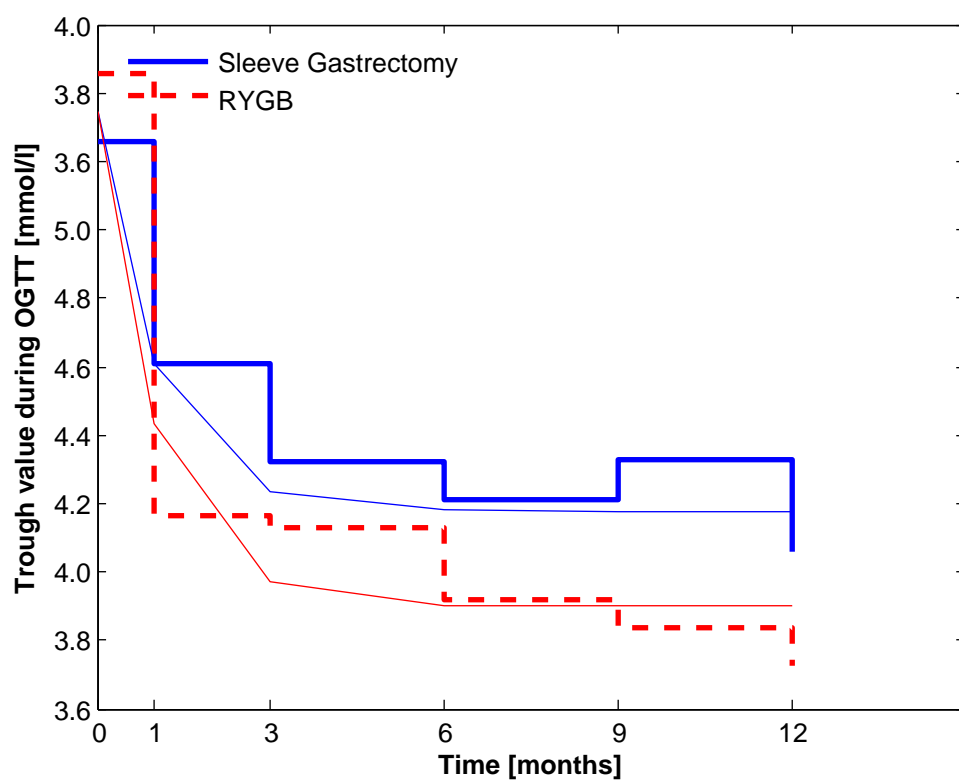
#### *Figure 1*

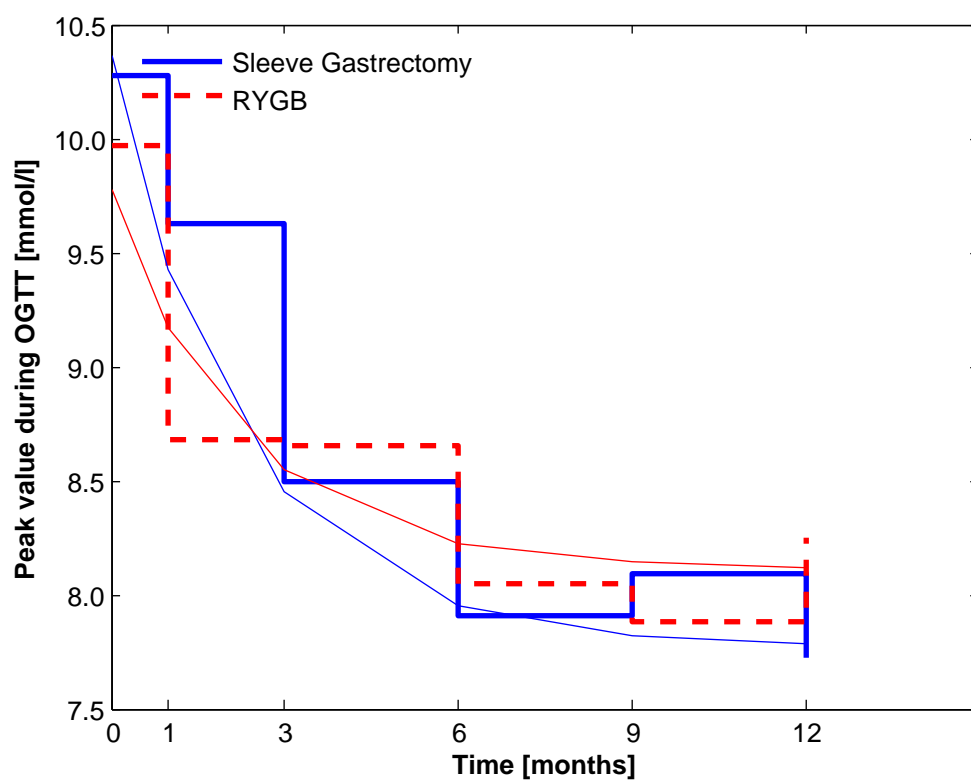
Average values (piecewise lines) and predicted values (continuous lines) of plasma glucose nadir after the oral glucose load for SG (continuous line) and RYGB (dashed line).

#### *Figure 2*

Average values (piecewise lines) and predicted values (continuous lines) of plasma glucose peak after the oral glucose load for SG (continuous line) and RYGB (dashed line).

Table 1S reports the study variables divided per presence or absence of hypoglycemia.





**Table S1. Variables averages, along with their standard deviation, at baseline, at 1-year after bariatric surgery and percentage changes in patients who experienced hypoglycaemic events and in patients who did not.**

		No Hypoglycemic events				Yes Hypoglycemic events						P		
		Treatment				Treatment								
		Sleeve Gastrectomy		RYGB		All		Sleeve Gastrectomy					RYGB	
		mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	
Weight	baseline	122.50	17.52	124.50	12.43	123.42	15.36	117.88	21.58	122.37	15.94	120.93	17.60	0.525
	after 1 year	84.84	15.70	82.18	9.31	83.66	13.24	81.38	18.99	78.50	11.29	79.46	13.96	0.194
	percent delta at 1 year	-30.74	7.61	-33.60	7.22	-32.01	7.54	-31.42	3.89	-36.67	5.21	-34.92	5.36	0.036
BMI	baseline	43.84	4.42	43.20	4.17	43.55	4.29	40.74	1.96	42.84	3.55	42.17	3.24	0.138
	after 1 year	30.39	4.08	28.60	4.04	29.60	4.14	27.92	1.86	27.43	3.12	27.59	2.73	0.006
	percent delta at 1 year	-30.53	7.42	-33.47	7.34	-31.83	7.49	-31.42	3.89	-36.49	5.18	-34.80	5.30	0.071
HbA1c	baseline	37.68	6.29	40.50	8.45	39.01	7.48	36.14	2.41	38.35	1.97	37.71	2.29	0.403
	after 1 year	33.80	5.82	35.09	5.26	34.38	5.57	34.17	2.32	34.69	2.30	34.55	2.26	0.842
	percent delta at 1 year	-8.95	8.54	-10.13	13.47	-9.48	10.98	-6.80	3.69	-9.70	5.28	-8.91	4.99	0.812
Glycemia	baseline	5.16	0.51	5.09	0.57	5.13	0.54	4.97	0.27	5.10	0.50	5.06	0.45	0.533
	after 1 year	81.80	9.21	81.54	8.31	81.68	8.76	82.00	7.54	77.65	11.37	79.04	10.35	0.252
	percent delta at 1 year	-11.13	12.82	-10.51	11.30	-10.85	12.09	-9.16	8.35	-14.19	16.77	-12.73	14.81	0.571
Total Cholesterol	baseline	5.00	0.98	5.02	1.02	5.01	0.99	5.33	0.96	4.70	0.78	4.88	0.86	0.547
	after 1 year	4.23	0.80	4.18	0.79	4.21	0.79	4.02	0.49	3.76	0.68	3.82	0.64	0.025
	percent delta at 1 year	-13.44	20.35	-12.99	32.11	-13.24	26.08	-18.25	10.96	-20.52	14.40	-19.98	13.44	0.112
HDL Cholesterol	baseline	1.33	0.38	1.30	0.27	1.32	0.33	1.24	0.35	1.18	0.24	1.20	0.27	0.091
	after 1 year	1.44	0.55	1.49	0.34	1.46	0.46	1.19	0.17	1.45	0.24	1.39	0.25	0.420
	percent delta at 1 year	9.24	24.44	17.06	46.79	12.61	35.70	4.61	31.63	23.88	35.20	19.60	34.52	0.457
LDL cHolesterol	baseline	2.95	0.89	3.12	0.79	3.02	0.85	3.24	0.81	2.73	0.41	2.89	0.59	0.466
	after 1 year	2.44	0.77	2.27	0.71	2.36	0.74	2.38	0.44	2.01	0.42	2.09	0.44	0.125
	percent delta at 1 year	-15.34	28.66	-28.83	16.29	-21.12	24.91	-17.34	11.54	-29.24	14.42	-26.59	14.44	0.243
Triglyceirdes	baseline	1.53	0.93	1.45	0.79	1.50	0.86	1.85	0.58	1.04	0.57	1.27	0.68	0.185
	after 1 year	1.17	0.48	1.08	0.48	1.13	0.48	1.25	0.23	0.77	0.21	0.88	0.30	0.030
	percent delta at 1 year	-12.55	40.86	-1.86	87.23	-7.86	65.05	-22.29	36.18	-11.34	44.84	-13.95	42.34	0.614
Systolic Bllood Pressure	baseline	127.86	9.55	131.32	18.48	129.37	14.17	128.57	17.01	130.59	16.09	130.00	16.02	0.862
	after 1 year	122.91	10.21	126.90	10.59	124.84	10.53	122.75	8.97	126.82	12.96	125.52	11.80	0.796
	percent delta at 1 year	-4.12	8.25	-2.44	8.61	-3.34	8.41	-1.37	11.35	-2.45	7.24	-2.13	8.38	0.540
Diastolic Blood Pressure	baseline	80.88	7.06	84.34	11.75	82.39	9.50	83.57	9.45	84.71	7.80	84.38	8.12	0.313
	after 1 year	78.58	7.48	98.81	118.90	88.34	82.89	80.75	5.37	82.65	6.15	82.04	5.87	0.484
	percent delta at 1 year	-2.85	8.96	-3.35	13.96	-3.08	11.48	-0.84	10.06	-2.15	5.76	-1.77	7.06	0.497