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# **TECNICAL METABOLIC ASPECTS and RESULTS OF 1183 PATIENS at 10 years revision**

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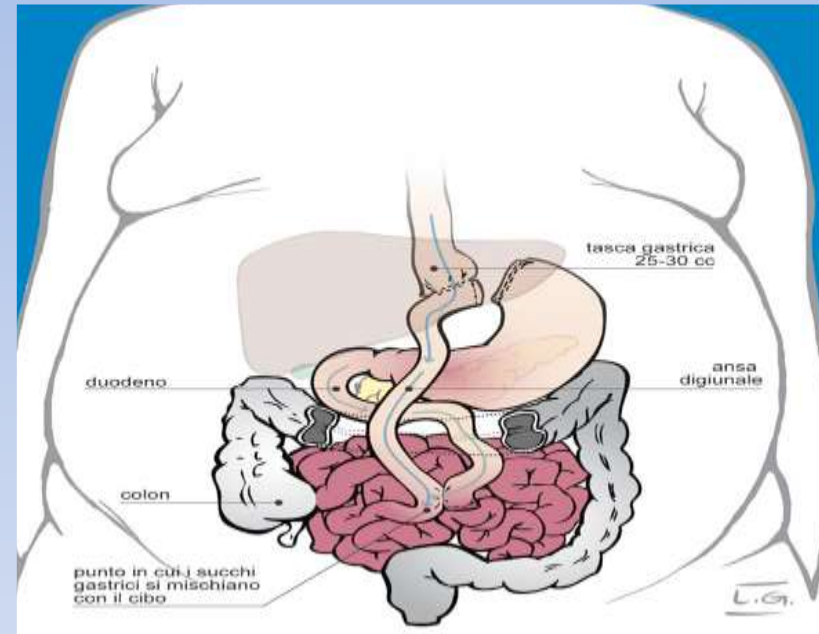
**VIDEO Accepted by OBESITY SURGERY April 2021**

# GASTRIC BYPASS BY E.MASON 1966

The stomach can not be explored, the patient can not perform a diagnostic and operative gastroscopy

The same appen with mimi gastric bypass

I think that, in the era of operative endoscopy, this is a real limitation



## NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH (Lesti model)

The relationships among food ,stomach, small bowels and hormones are better known nowadays. These relationships have to be very well known in designing surgical procedures for the treatment of obesity.

\*\* Grelin, PYY, GLP-1, GIP, CCK, all these hormones play an important role in controlling the food intake; therefore, the actions of these hormones should be very well known in selecting the right procedure.

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

- \*The study of Brolin et al, offers the first level evidence showing the importance of limbs length, it is hard to determine whether the beneficial effects depend on the length of the alimentary limb or the bariatric ,or more likely, of the common channel. Whatever the reason : “ **the limbs lengths play an important role in the metabolic effect of gastric bypass.**
- \* **Our behaviour take in mind** :*the food should arrive as sooner as possible to the jlium to henancing the secretion of very important hormones as GLP1 and the PYY*

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

- The metabolic benefits of a longer biliary limb can be demonstrated in the OARYGB
- OARYGB (mini gastric bypass) with a unique 200-cm bypassed biliary limb; diabetes remission or improvement is reported in more than 90% of cases. It's possible that a longer BP limb, even in the presence of a relatively short alimentary limb, could have metabolic advantages as **it could deliver nutrients to the ileum more quickly ,whit the early release of GLP-1/ PYY**
- .

## NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH

Sixteen studies on 325 patients with LRYGB.

\*\* The regression meta analysis shows that the volume of the pouch, the length of biliary and alimentary limbs were not associated with variation of grelin level

\*\* The Grelin level decreases in the first 3 months, but increases afterwards

\*\* It is clear that Grelin does not play an important role in the LRYGBP

Systemic review and metabolic of the change in Grelin level after LRYGB.

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## NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH.

- After RYGP, the following results can be observed, with important metabolic effects: gastric restriction leading to early satiety, and decreasing the volume of the meals; **The resection of the fundus of the stomach leading to a reduction in the secretion of ghrelin and subsequent anorexigenic effect**; faster arrival of nutrients to the distal intestine, in order to stimulate the release of PYY and GLP-1, which lead to decreased food intake and improve glucose tolerance (Rubino 2006; Cummings 2007)

ALL OF THESE RULE ARE REPRESENTED IN MY MODEL OF REVERSABLE GASTRIC BY PASS first made in 2004 with the last revision at 2010.

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH.

- \* The challenging diagnosis and treatment of diseases in the gastric remnant, duodenum, and common bile duct are major limitations
- \* Cancer or bleeding ulcer located in the gastric remnant are possible life-threatening conditions
- \* It has been shown that up to 10% patients after RYGB may develop cholelithiasis and up to 1% choledocolithiasis.
- \* *The laparoscopic gastric bypass with fundectomy and gastric remnant exploration (LRYGBfse) was introduced in order to overcome these limitations of the LRYGB.*



# LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH.

25 pts

Grelin (n.v. 200-800 pm)

medium value

pre-op: 660pm/l

medium value

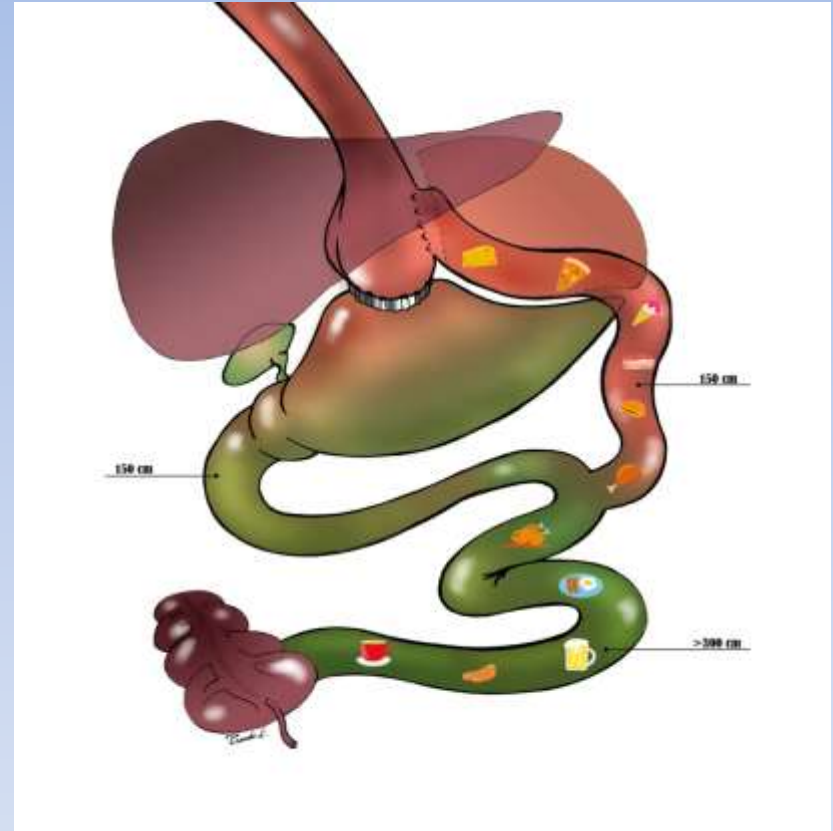
at 30 days: 76pm/l

at 6 month: 93pm/l

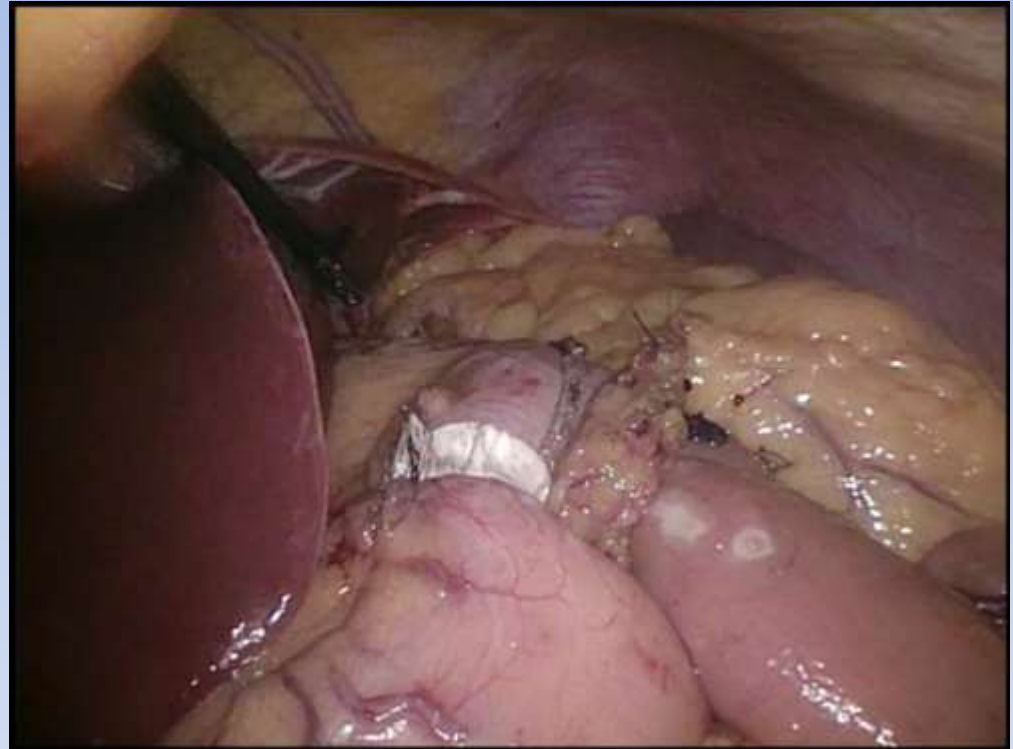
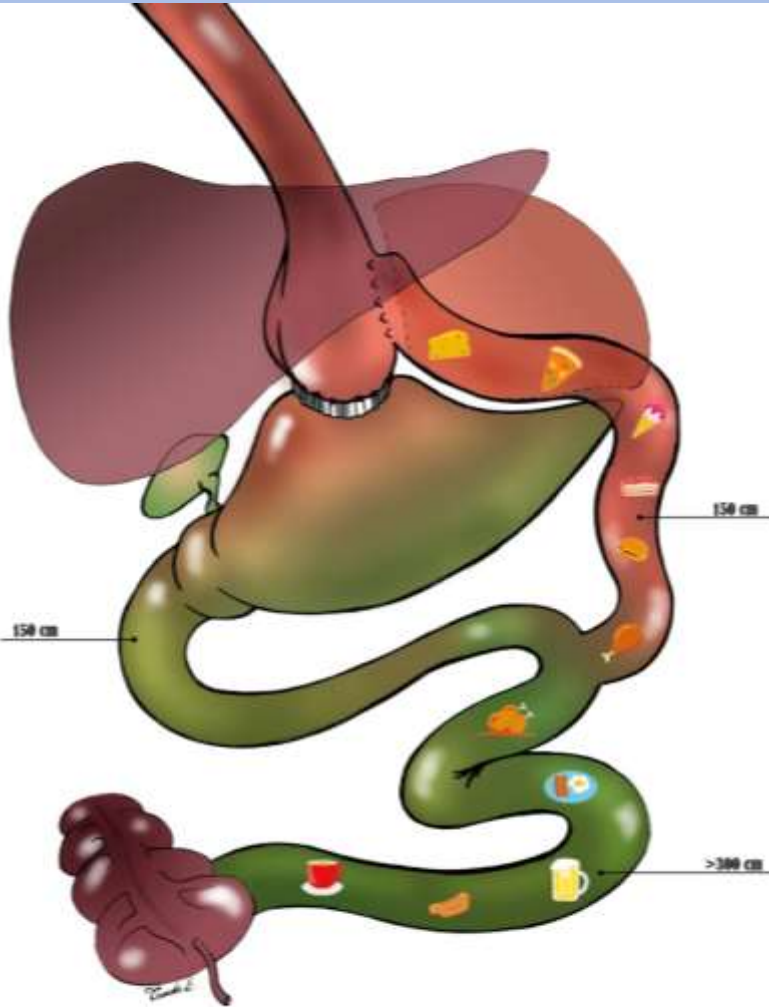
at 12 month: 109pm/l

The biliary limbs are 200 cm ; the alimentary limbs are 100 cm; //with BMI over 45 the alimentary limbs are 150 cm.

If the C.C. is less than 300 cm, the alimentary limb is reduced, not the biliary limb.



# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH.



The food doesn't pass through the duodenum and the first part of Jujunum (Rubino Theory)

The food meets the bile in the first part of ileum or in the last part of the Jujiunum?

This gastric bypass is in line with the fore gut and hind gut theory.

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH.



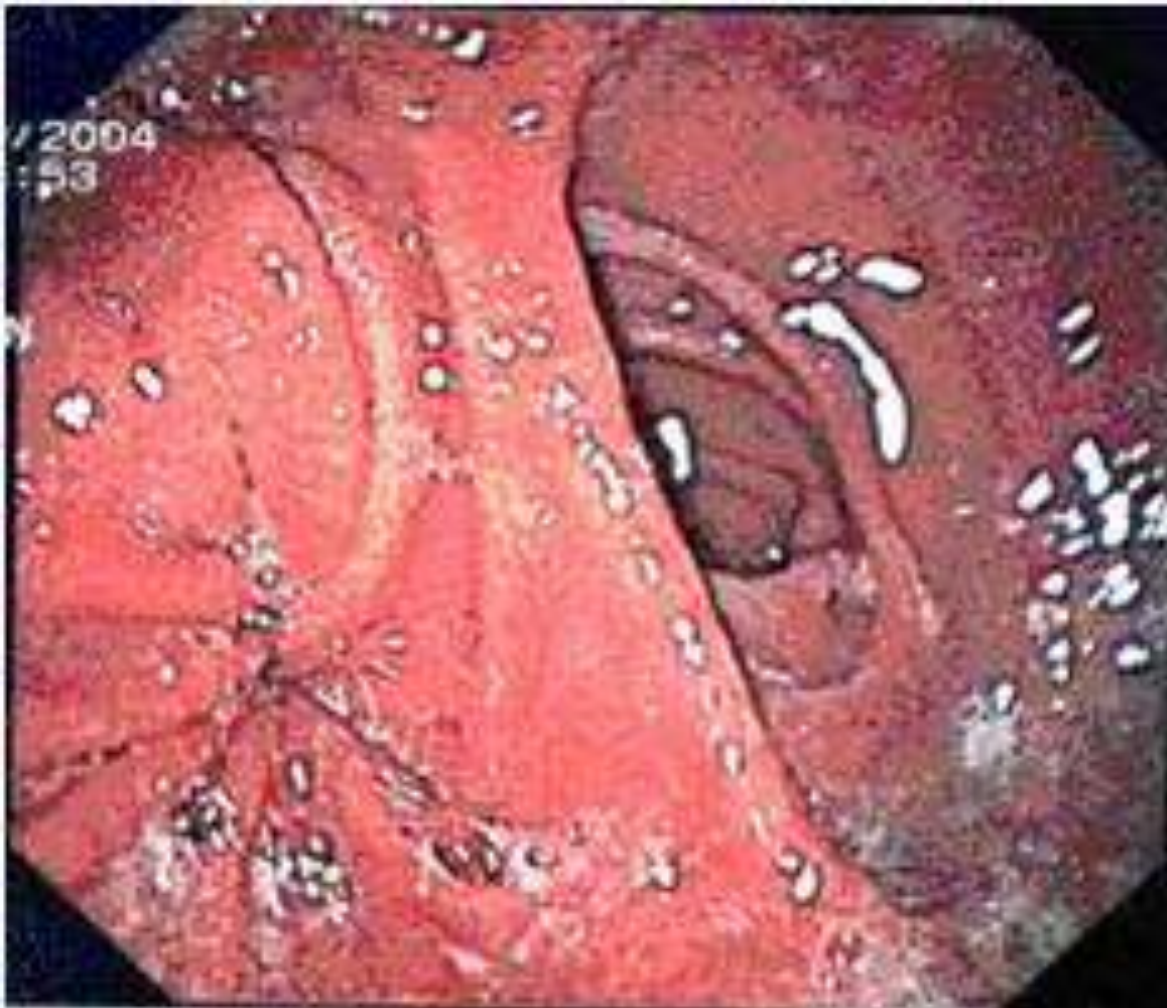
# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASSN WITH FUNDECTOMY AND ESPLORABLE STOMACH.



The x ray shows the passage of barium directly to the alimentary limb..

Nothing goes through the remnant stomach.

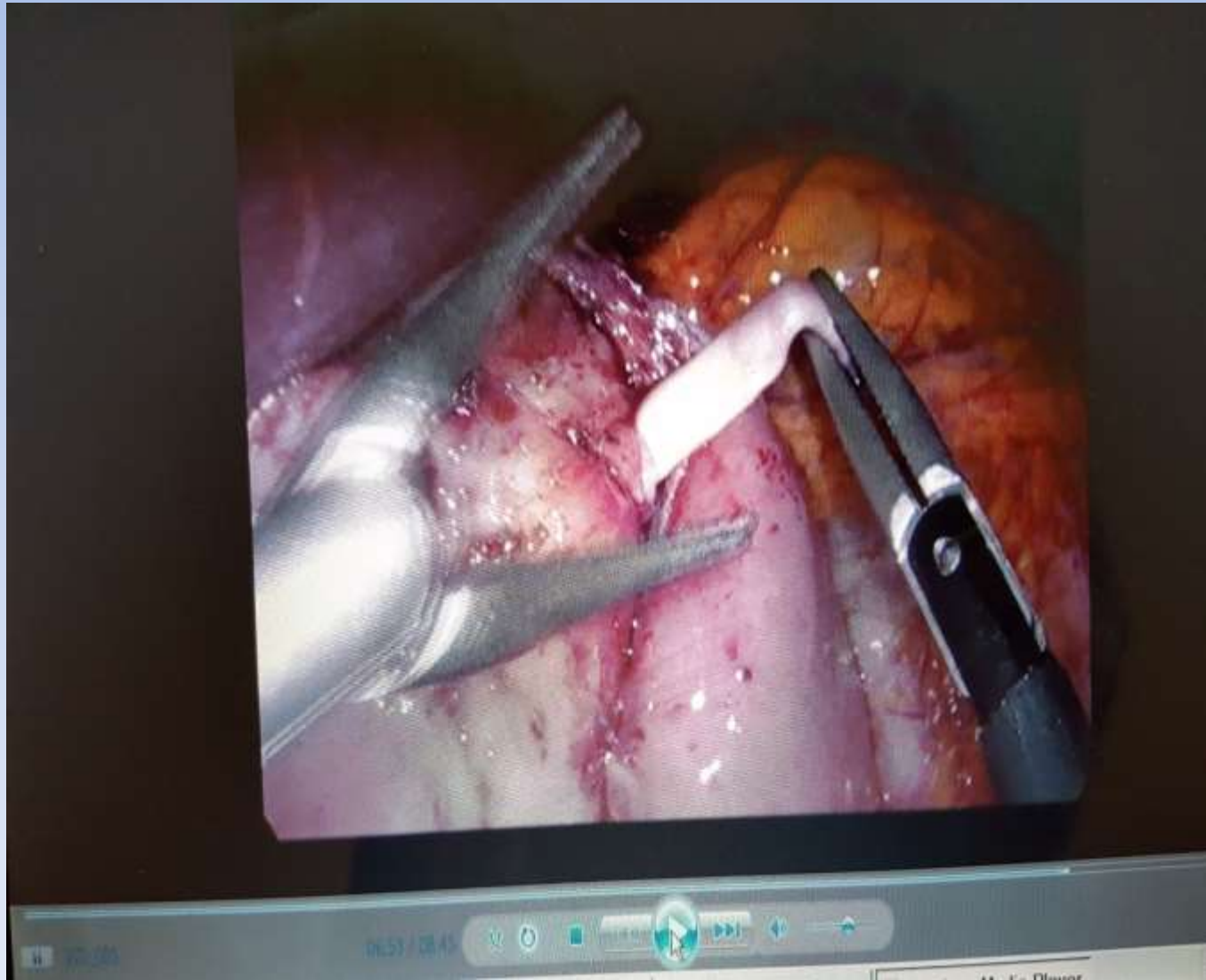
# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASSN WITH FUNDECTOMY AND ESPLORABLE STOMACH.



All patients have a gastroscopy after 1 and 5 years: rarely bile has been found in the gastric pouch.

It is important to underline that no gastro-gastro fistula is created. We have found, in our patients, only 5 ulcers in very heavy smokers.

The patient, smoker of 40 cigarettes a day, at the fourth month of pregnancy, was suffering from an ulcer of the gastro-jejunal anastomosis totally occluding the passage of food. The band was removed and the patient had a baby 4 months later.



# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

In our group of patients, endoscopic retrograde cholangio-pancreatography (ERCP) was necessary in 3 patients for symptomatic choledocolithiasis at 28 e 37 and 51 months respectively after the LRYGB (FSE). The procedures were done without complications.

In the same group, 2 patients had a pre-pyloric cancer 32 and 45 months after the LRYGB (FSE). The diagnosis was made during the annual gastroscopic controll in early phase ;a gastrectomy with D2 lymphadenectomy was performed in both patients. The pouch was preserved in both patients.

Risk of gastric cancer after RYGB should be evaluated and considered in high-risk cases. Also the minigastric bypass have the same problability

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

Oesophageal and Gastric Cancer After Bariatric Surgery: an Up-to-Date Systematic Scoping Review of Literature of 324 Cases

*Obesity Surgery* **volume 32**, pages 3854–3862

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# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

- No. of patients 1183
- Age, years, median (range) 38,4 (22–67)
- Females, 693//Male .490
- Pre op body weight, kg, median (range) 123.4 (87–152)
- Pre op BMI, kg/m<sup>2</sup>, median (range) 44,8 (34–56.6)
- BMI 35–< 40 kg/m<sup>2</sup>, (12.5%)
- BMI 40–< 50 kg/m<sup>2</sup>, (79,4%)
- BMI 50–< 60 kg/m<sup>2</sup>, (8.1%)
- Post-operative stay( days ) 4.74 (3- 8 )
- Mean operating time 122min. ( 98 - 227)

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

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Time	Weight (kg)	BMI (kg/m <sup>2</sup> )	%EWL
Pre-op	114 ± 8.9	44,8 ± 7.5	-----
1 year follow-up ( 1183 )	83.2 ± 11.3	37,8 ± 2.9	74.2 ± 17.4
2 years follow-up (920 p1ts)	81.3 ± 12.5	29.5 ± 2.6	73.2 ± 16,4
3 years follow-up (791 pts)	81.7 ± 11.6	29.6 ± 6.2	73,6 ± 16.2
5 years follow-up (589 pts)	81.1 ± 12.8	31.5 ± 5.7	71,35 ± 17.3
7 years follow up (366 pts)	83.7 ± 11.50	30,3 ± 3.7	67,72 ± 16.8
10 years follow up (174pts)	87.8 ± 11.50	32.4 ± 2.5	68,59 ± 16.3

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH

## Comorbidities resolution at 10 years

		Resolution	Improvement	No change
*Hypertension	(49.5%)	67,4%	26,1 %	6,5%
*Dyslipidemia	(47.3%)	75,3%	24,7%	-----
*GERD	(37.6%)	84,8%	15,2%	-----
*Diabetes	(24.6%)	68,5%	21,4%	10,1%
*OSAS	(19.4%)	60,5%	39,5%	-----
*Depression	(17.5%)		86,4%	13,6%

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH

## MAJOR COMPLICATIONS

- The overall procedure-related morbidity

Mortality	0
Leaks	4
Bleeding/reoperations	5
Ulcers (heavy smockers)	12
Ulcers Not heavy smochers	6
Internal hernias/reoperations	4
Stricture	0

# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLOABLE STOMACH

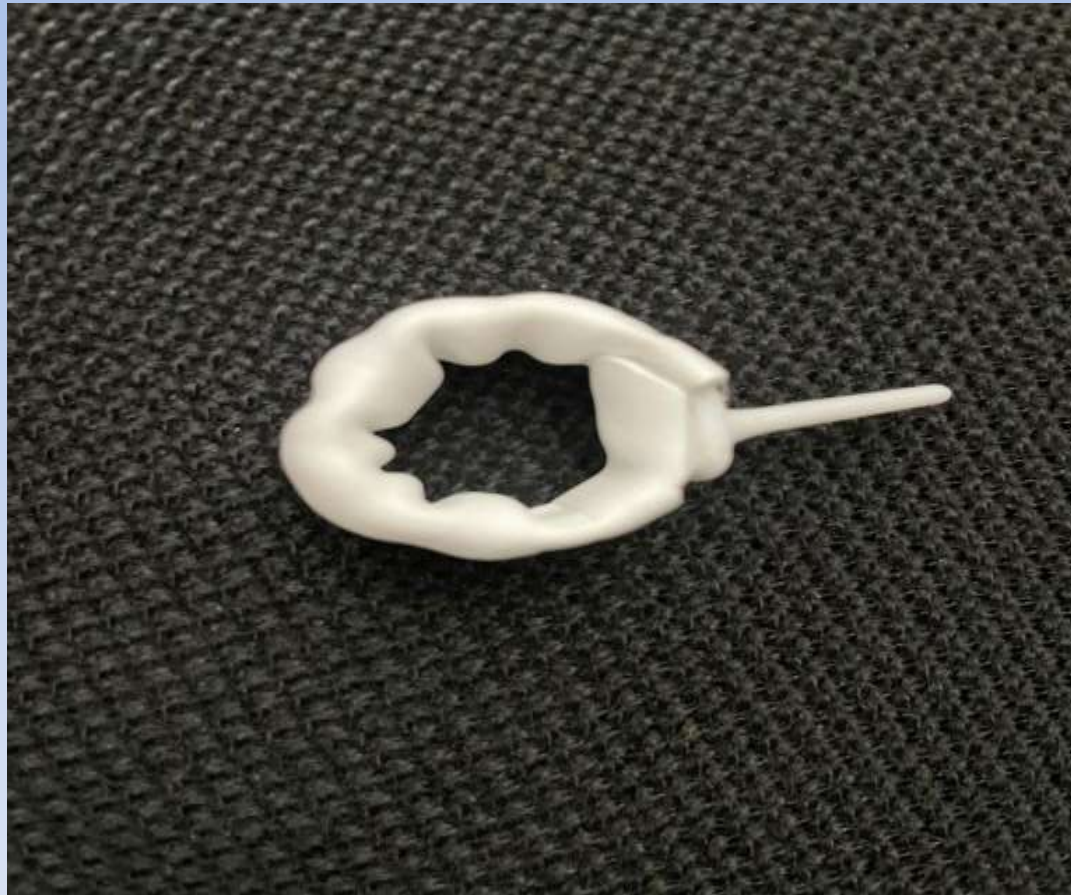
## **\*\*CONSIDERATIONS and IMPROVEMENTS**

- **The main point of these banded procedures is the device!!!**  
This device should have such elasticity to gently close the passage from the pouch to the remnant stomach of the solid and liquid food; at the same time, it should not allow any passage of the bile from the remnant stomach to the pouch. Moreover, it should permit the passage not only of the diagnostic 5 mm endoscope, but also the operative endoscope.

DCB is made by a silicon strip inside a tube of ePTFE 4 cm longer. The two materials are fixed at the end. The ePTFE assume an accordion shape. The silicon strip has three measures: 5,6,7 cm



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# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH

- **ANSWER OF THE ITALIAN SERGEONS**
- Yes. I know it, I consider it a valid intervention and I carry it out in all patients who have indications for RYGB 7.50%
- Yes. I know it, I consider it a valid intervention
- and I perform it in selected patients 12.50%
- Yes. I know it, I consider it a valid intervention;
- but I don't do in this time 40.00%
- I know about it but I don't consider it a valid
- intervention and therefore I don't do it 30.00%



# NOVEL LAPAROSCOPIC REVERSABLE GASTRIC BAYPASS WITH FUNDECTOMY AND ESPLORABLE STOMACH

- **OPZIONI DI RISPOSTA 90%**

- Sì. Lo conosco, lo considero un intervento valido e lo eseguo in tutti i pazienti che hanno indicazioni al RYGB 7,50%
- Sì. Lo conosco, lo considero un intervento valido e lo eseguo in pazienti selezionati 12,50%
- Sì. Lo conosco, lo considero un intervento valido; ma non lo eseguo 40,00%
- Sì. Lo conosco ma non lo considero un intervento valido e pertanto non lo eseguo 30,00%

