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**GASTRO-ESOPHAGEAL REFLUX AFTER BARIATRIC SURGERY: clinical-endoscopic, mid and long term evaluation after Gastric Banding, R-Y Gastric By-Pass, Sleeve Gastrectomy and One Anastomosis Gastric By-Pass: preliminary results.**

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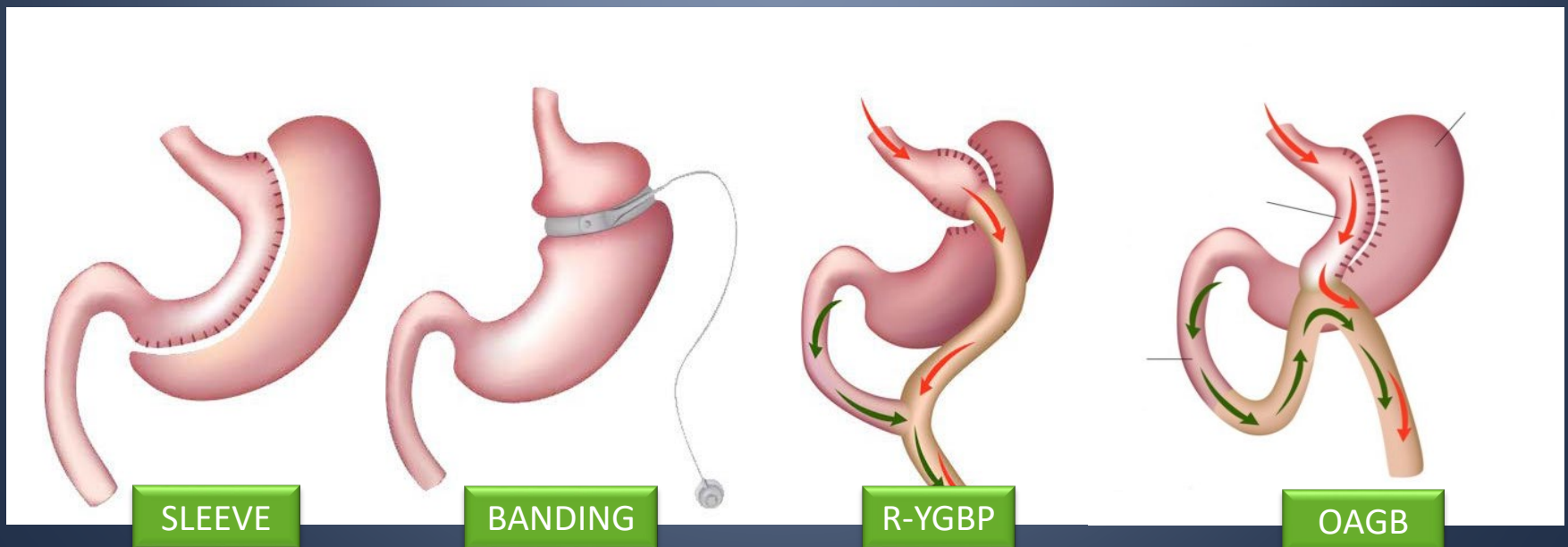
«Sapienza» University – Rome, Italy



**NO Disclosure**

## BACKGROUND

The rapid rising of bariatric surgery procedures highlighted **new complication issues**, including gastroesophageal reflux. It represents one of the most discussed topic. No clear and enough data are available comparing different surgical procedures.



# AIM

To compare the incidence of gastro-esophageal reflux, in patients undergoing Gastric Banding (GB), Gastric By-Pass R-Y (RYGBP), Laparoscopic Sleeve Gastrectomy (LSG) and One Anastomosis Gastric By-Pass (OAGB).

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Mean follow-up for GB,  
RY-GBP, LSG : **10** years  
(2006-2010)

Mean follow-up for  
OAGB : **3** years  
(2015-2018)

**57/115** GB pts  
**50%**

**95/162** LSG pts  
**59%**

**41/96** RYGBP pts  
**43%**

**48/112** OAGB pts  
**43%**

# METHOD

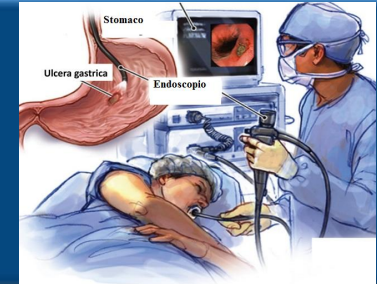
## CLINICAL EVALUATION:

- SYMPTOMS (0-10 VAS SCORE)
- PPI INTAKE
- COMORBIDITIES
- WEIGHT



## EGD:

- MACROSCOPIC EXAM
- ESOPHAGITIS SCORE (Los Angeles Classification)
- BIOPSY FOR ISTOLOGY



## SURGICAL COMPLICATIONS and CONVERSION



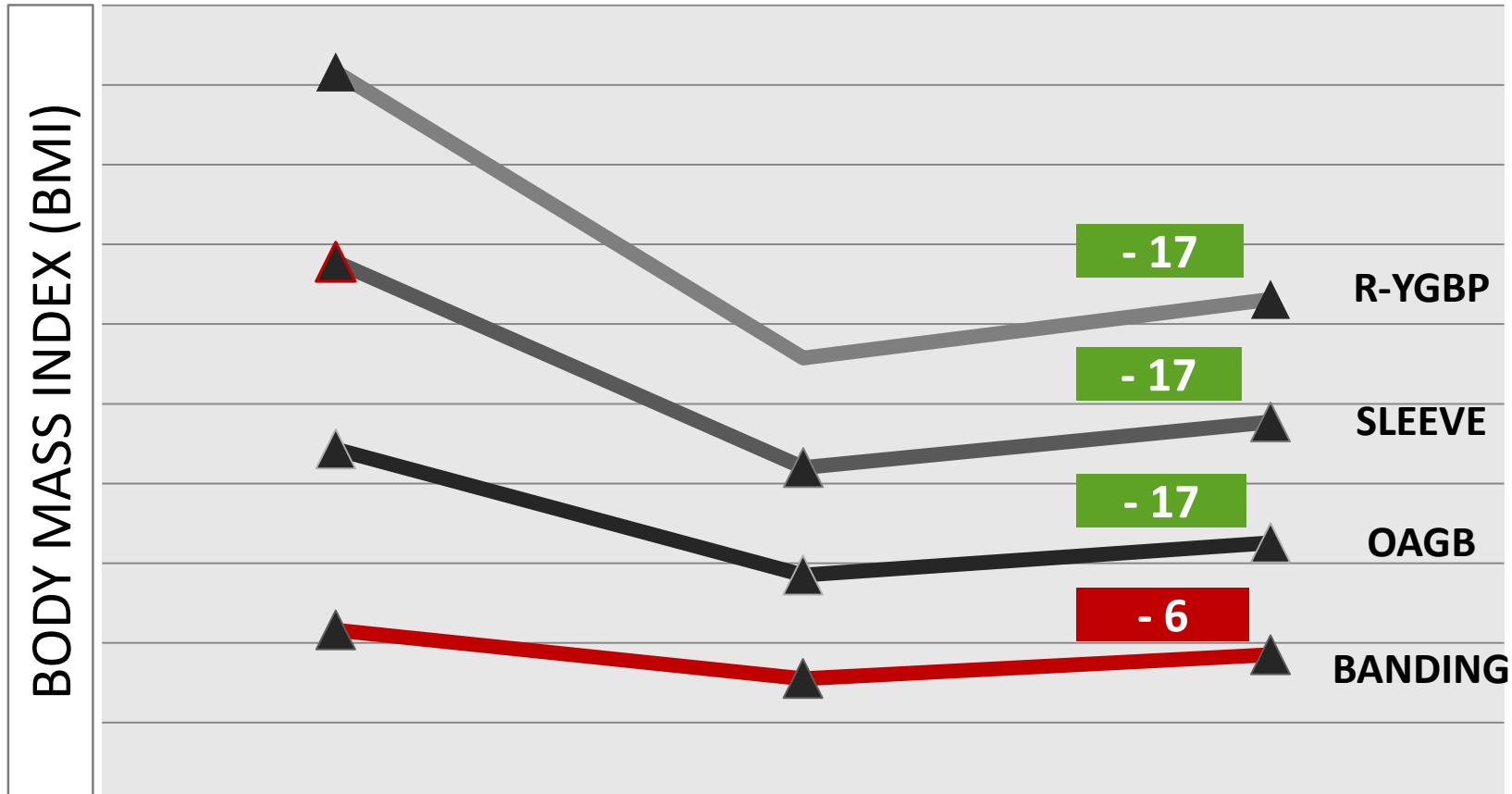
## STATISTICAL ANALYSIS:

- TEST DEL CHI-QUADRATO
- MODELLI DI REGRESSIONE LOGISTICA
- SOFTWARE: STATA 11



# RESULTS

## BMI REDUCTION



	BMI AT BASELINE	BMI AT NADIR	BMI AT FOLLOW-UP
▲ R-YGBP	47,7	27,5	30,8
▲ SLEEVE	47	27	30,3
— OAGB	45,4	26	28,1
— BANDING	43,2	31	37



# RESULTS

## G-E REFLUX SYMPTOMS PATIENTS (%)

	PRE	POST
G. BANDING	14%	31%
SLEEVE	26%	59%
R-Y GBP	36%	14%
OAGB	41%	52%

# RESULTS

## ENDOSCOPIC EVALUATION

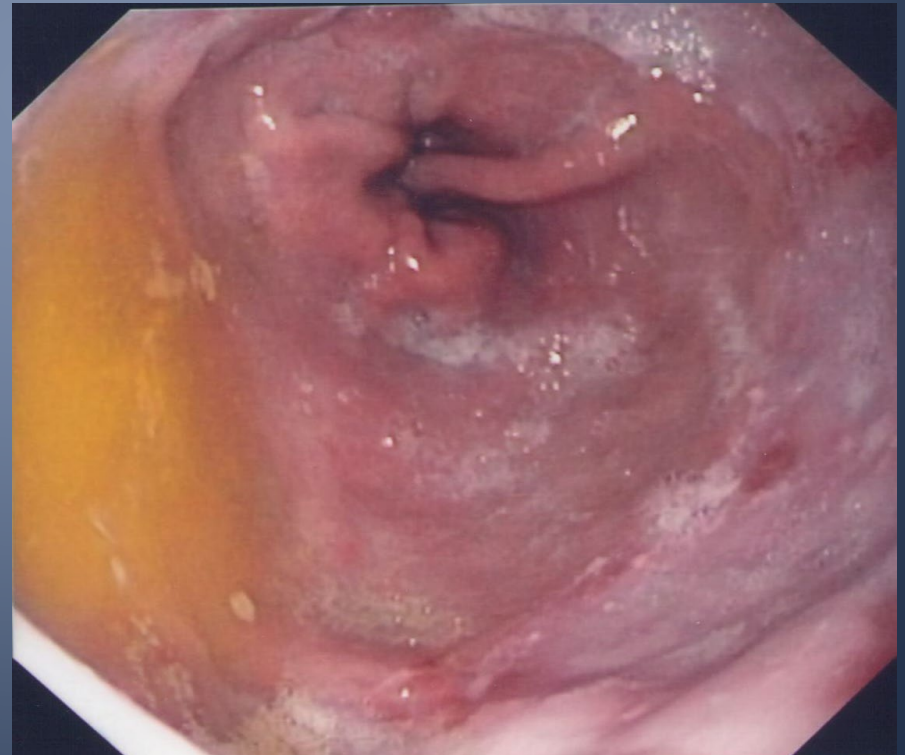
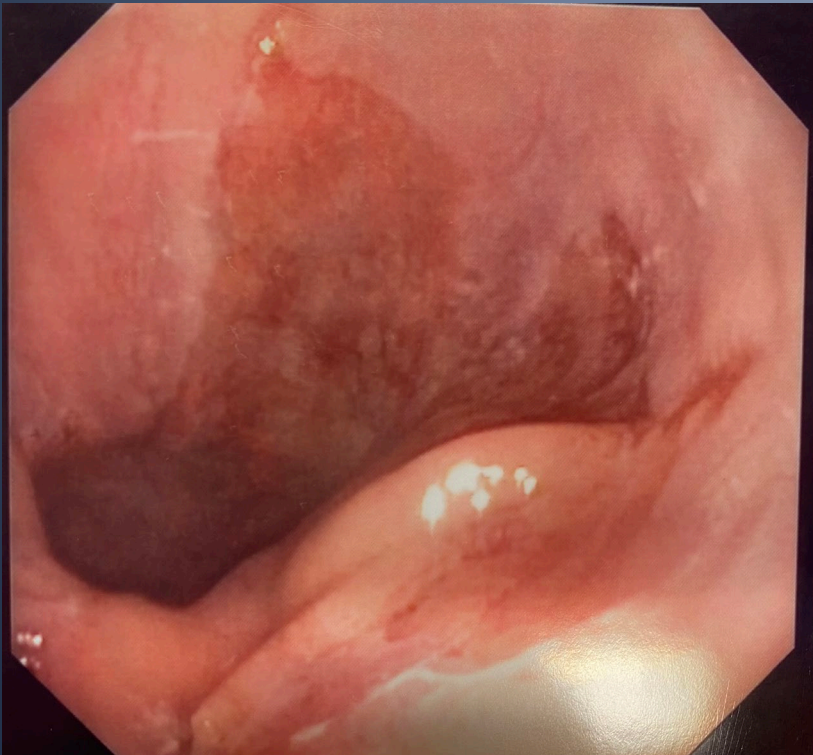
	SLEEVE GASTRECTO MY n=95	GASTRIC BANDING n=57	R-Y GASTRIC BY-PASS n=41	OAGB n=48	P-VALUE
ESOPHAGITIS	71 pts (75,6%)	12 pts (21%)	9 pts (22,5%)	11 pts (23,4%)	0,0001
GRADE A ESOPHAGITIS	60 %	79 %	100 %	90 %	
GRADE B ESOPHAGITIS	31 %	21 %	0 %	10 %	
GRADE C ESOPHAGITIS	9 %	0 %	0 %	0 %	



# RESULTS

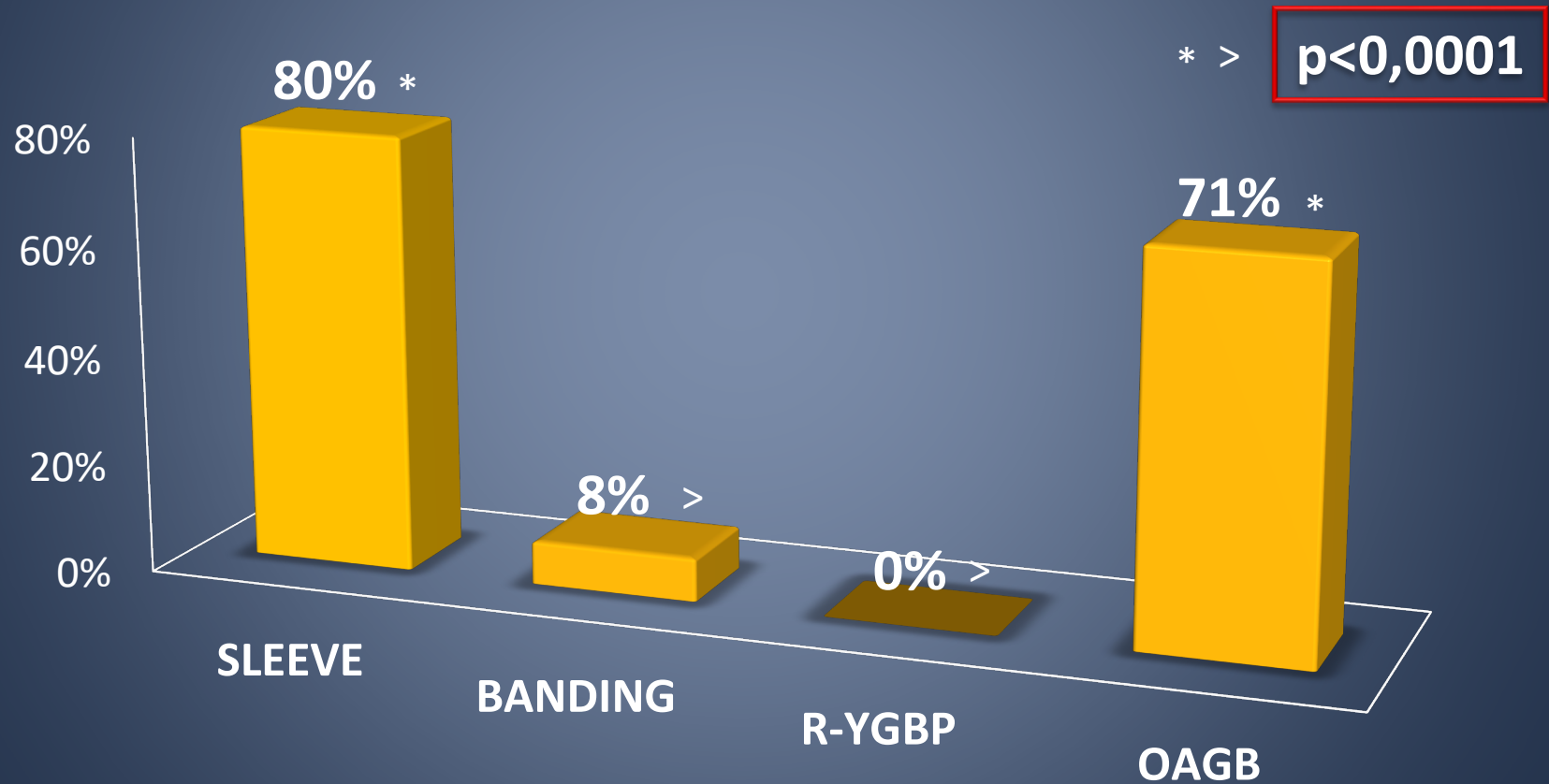
## ENDOSCOPIC EVALUATION

	SLEEVE GASTRECTOMY n=95	GASTRIC BANDING n=57	R-Y GASTRIC BY-PASS n=41	OAGB n=48	P-VALUE
BARRETT'S ESOPHAGUS	16 pts (17%)	0 %	0 %	0 %	0,0001



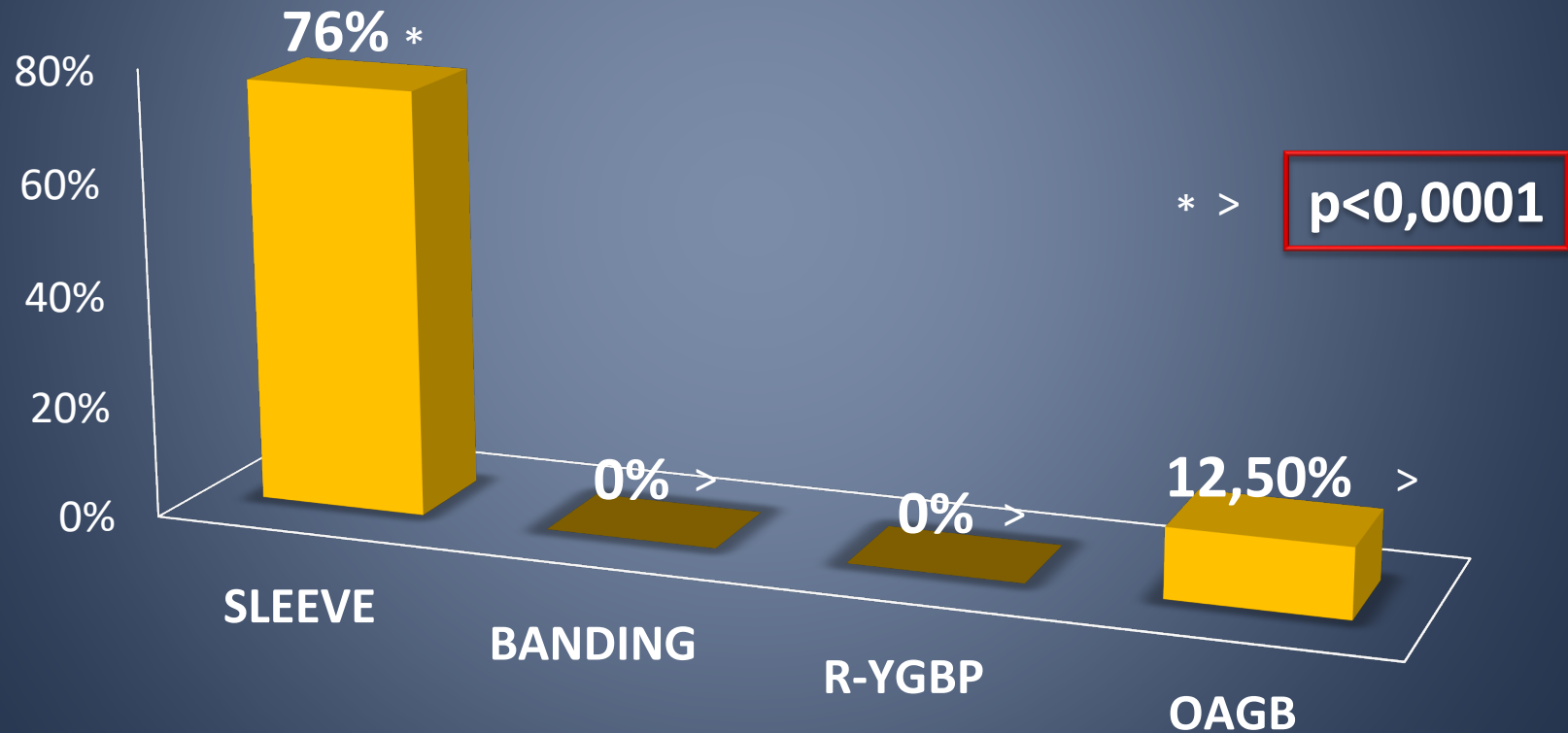
# RESULTS

## BILIARY-LIKE GASTRIC REFLUX



# RESULTS

## BILIARY-LIKE ESOPHAGEAL REFLUX



# COMPLICATIONS

	R-YGBP n=41	OAGB n=48
STOMITE	2 pts (5%)	23 pts (49%)
MARGINAL ULCER	6 pts (14,6%)	5 pts (10,4%)
MARGINAL ULCER PERFORATION	0 %	1 pts (0,9%) (n=112 pts undergoing OAGB)

# COMPLICATIONS

**GASTRIC  
BANDING  
N=57**

**16 pts (28%)**

Banding removal or Conversion to RYGBP/OAGB/LSG

**SLEEVE  
GASTRECTOMY  
N=95**

**7 pts (7,3%)**

to RYGBP

**R-YGBP  
N=41**

**0%**

No conversion performed

**OAGB  
N=48**

**5 pts (10,4%)**

to RYGBP (early experience)



# CONCLUSION

- ❖ LSG induces higher rate of complications related to gastro-esophageal reflux, than other bariatric procedures.
- ❖ R-Y GBP appears to be the best procedure in terms of gastro-esophageal reflux complications.
- ❖ Because of possible long term complications, performing a very close follow-up is mandatory.
- ❖ In order to prevent possible, serious complications related to biliary jejuno-gastric reflux in OAGB pts, further long term studies are needed.

**THANK YOU!**



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