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The impact of preoperative investigations on the management of bariatric patients; results of a cohort of more than 1200 cases

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SMOB FORTBILDUNGSTAG
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Schneider et al, Surg Obes Relat Dis. 2018 May;14(5):693-699.

Disclosure

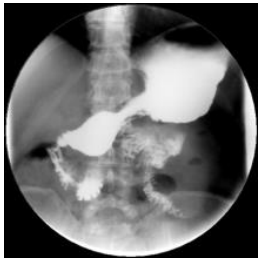
- R.P. is consultant to *Ethicon Endosurgery*

Background

- No or insufficient international consensus on preoperative examinations
- Cardiovascular: No consensus
- Sleep apnea: Some consensus
- Gastrointestinal: No consensus

Aim

- Pathological findings in the upper GI tract before bariatric surgery
- Impact on therapeutic management



Methods

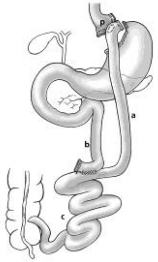
- Retrospective analysis of prospective collected data
- 1225 patients planned either for LRYGB or LSG as primary procedure
- Preoperative examinations in our hospital:
  - Transabdominal sonography
  - Upper gut endoscopy
  - Upper GI series
  - (Esophageal manometry)

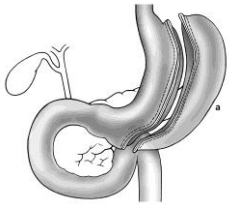
Methods

- Primary Endpoints: pathologies of the preoperative examinations
- Secondary Endpoints: Impact of the preoperative examinations on the therapeutic management

Patient characteristics

	LRYGB	LSG	*p* =
	n=834	n=391	
BMI (kg/m²)	43.6 ± 12.6 kg/m²	46.3 ± 6.5 kg/m²	< 0.0001
Age (y)	41.5 ± 12.6	43.8 ± 11.9	0.002
Female (%)	73.6	66.2	0.008

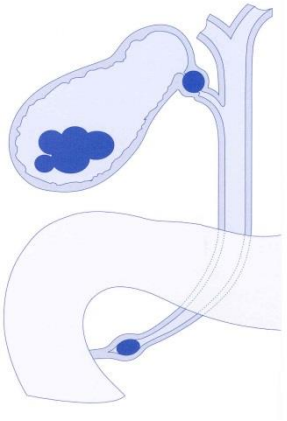




Sonography results

	LRYGB	LSG	Total
	n=834	n=391	N=1225
Gallstones	159 (22%)	63 (18%)	222 (21%)
Common bile duct stones	2 (0.2%)	1 (0.3%)	3 (0.2%)
History of CE	93 (11%)	40 (10%)	133 (11%)

Sonography consequences



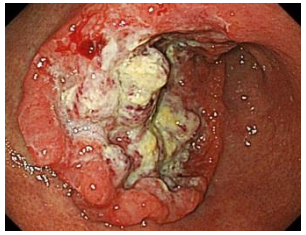
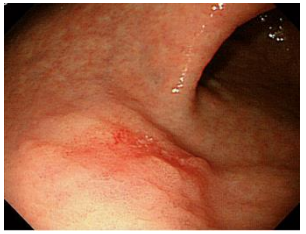
- Gallstones:
  - -> MRCP to detect common bile duct stones
  - common bile duct stones -> ERCP (n = 3)
  - simultaneous cholecystectomy
  - change of the therapeutic approach in 220 patients (=21%)
- Number needed to screen (NNS) sonography = 4.6

Upper endoscopy results

	LRYGB	LSG	Total
	n=812	n=378	N=1190
Unspecific gastritis	145 (18%)	79 (21%)	224 (19%)
Helicobacter positive gastritis	106 (13%)	52 (14%)	158 (13%)
Reflux associated esophagitis	165 (20%)	64 (17%)	229 (19%)

Upper endoscopy results

- Rare findings in asymptomatic patients
  - 2 Barrett carcinomas
  - 1 Barrett esophagus with high grade dysplasia
  - 1 gastric carcinoma
  - 6 C or D esophagitis according to L. A. Classification

upper endoscopy consequences

- HP infection:
  - -> preoperative antibiotic eradication
- Esophagitis (C or D):
  - -> LRYGB instead of LSG
- Carcinoma
  - -> oncological resection with CRT
- High grade esophageal dysplasia
  - -> mucosectomy, radiofrequency ablation
- Number needed to screen (NNS) = 6.3 (397 for carcinoma)

Upper GI series results and consequences

	LRYGB	LSG	Total
	n=800	n=378	n=1178
Hiatal hernia	218 (27%)	107 (28%)	325 (28%)

- All hiatal hernias were repaired intraoperatively in LSG patients
- Other relevant findings
  - 1 achalasia -> LRYGB instead of LSG
  - 1 severe esophageal motility disorder -> LRYGB instead of LSG

Esophageal manometry results

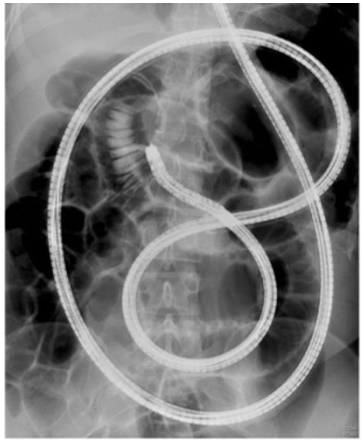
	LRYGB	LSG	Total
	n=300	n=310	n=610
Pathological peristalsis	9 (3%)	8 (3%)	17 (3%)
Lower sphincter pathological	34 (11%)	45 (15%)	79 (13%)
Lower sphincter and peristalsis pathological	5 (2%)	3 (1%)	8 (1%)

Summary of results

- gallstones (222 [21%])
- esophagitis (229 [19%])
- helicobacter associated gastritis (157 [13%])
- hiatal hernia (325 [28%])
- esophageal motility disorders (104 [17.0%])
- change of the therapeutic approach 483 times (39%)
- Major findings:
  - 2 Barrett's carcinomas
  - 1 advanced Barrett's dysplasia
  - 1 gastric carcinoma

Discussion

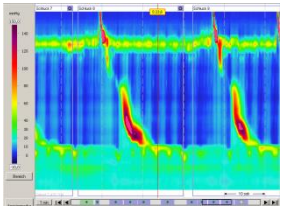
- Abdominal sonography
  - Significant high percentage of gallstones (21%)
  - management of cholelithiasis controversial
  - high morbidity and technical difficulty of the surgical or endoscopic intervention in biliary tree stones (especially after LRYGB)

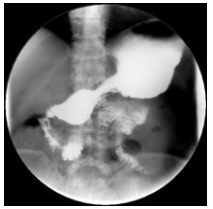


Discussion

- Upper Endoscopy
  - Esophagitis?
- Helicobacter pylori testing?
  - (Alternatives: Blood test, breath urea test, stool antibodies)
- Cost-benefit ratio
  - approximatively 350 CHF (740 CHF with histopathological examination)
- 3 malignant and 1 highly premalignant condition in our setting in asymptomatic patients

Discussion





- Upper GI series and esophageal manometry
- LSG in presence of hiatal hernia and GERD is under debate
  - High prevalence of Barrett's esophagus after LSG
- Use upper GI series and manometry in combination to rule out LSG
- Simultaneous hiatal hernia repair when LSG is the patient's choice

Conclusion

- abdominal sonography and upper GI endoscopy are strongly suggested before bariatric surgery
- Upper GI series and esophageal manometry help to define patients not suitable for sleeve gastrectomy