Hiatus hernia, GERD and Obesity

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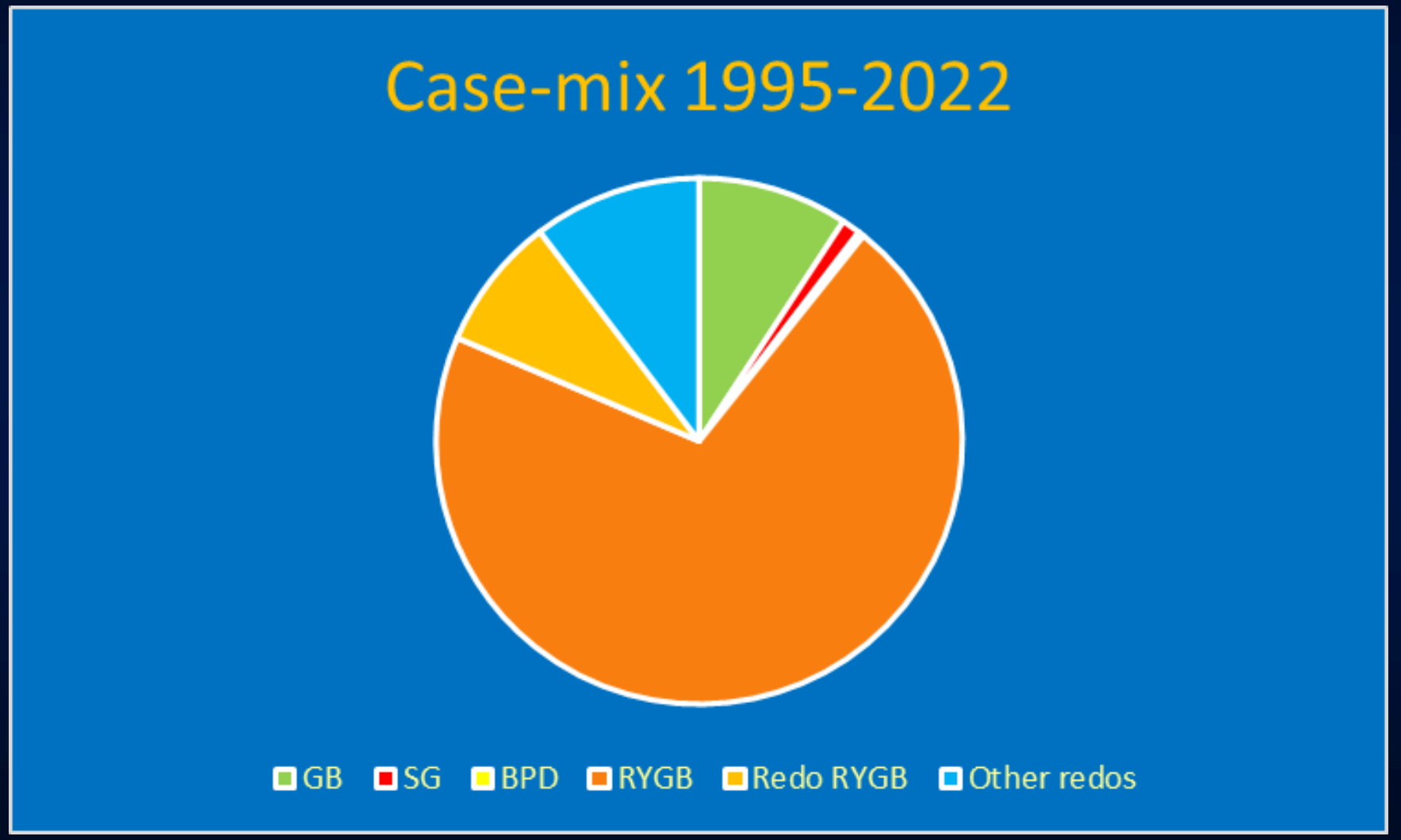
Nothing to disclose



Types of hiatus hernia

- Sliding hiatus hernia
  - Esophagogastric junction displace orally
  - > 90 % of hiatus hernia
- Para-esophageal hernia
  - Esophagogastric junction usually in place
- Mixed types

GERD: Gastro-esophageal reflux disease: definition

Excessive reflux of gastric content into the esophagus leading to symptoms or complications

GERD: Pathophysiology

- Reduced barrier (low resting LES pressure)
- Abnormal anatomy at esophago-gastric junction
  - Hiatus hernia
  - Short intra-abdominal esophagus
- Reduced clearance (esophageal dysmotility)
- Increased abdomino-thoracic pressure gradient
- Increased transient relaxations of the LES
- Sensitivity of the esophagus

GERD: Symptoms

- Typical
  - Hearburn
  - Regurgitation
  - Dysphagia
  - Halitosis
- Less typical
  - Asthma
  - Chronic cough
  - Hoarseness
  - Dental issues

GERD: Prevalence

- Meta-analysis of 79 studies in 36 countries
  - Overall prevalence of 13,3 %
  - Prevalence varies by region
  - Prevalence increases slightly with age (14 % if < 50, 17,3 if > 50)
  - Prevalence seems to be increasing

- Meta-analysis of 22 studies
  - Increased prevalence of GERD with obesity (22,1 versus 14,2 %)

Maret-Ouda et al, JAMA 2020; 324: 2536

Surgery for Obesity and Related Diseases 10 (2014) 1176–1181
Original article

Frequency of abnormal esophageal acid exposure in patients eligible for bariatric surgery

Jesica Martín-Pérez, M.D.[a], Ivan Arteaga-González, M.D., Ph.D.[a,*], Antonio Martín-Malagón, M.D., Ph.D.[a], Hermógenes Díaz-Luis, M.D.[a], Carlos Casanova-Trujillo, M.D., Ph.D.[b], Angel Carrillo-Pallarés A, M.D., Ph.D.[a]

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88 patients (70 women, 18 men, mean age = 41 years) awaiting bariatric surgery submitted to

Questionnaire regarding symptoms

Upper GI endoscopy

Perfusion manometry

24-h pH-study

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	n	%
TYPICAL SYMPTOMS (Heartburn and regurgitation)	33	40.0
pH monitoring		
Positive DeMeester score (<14'72)	57	65.0
Reflux episodes	102	
Standing	80	
Supine	22	
MANOMETRY		
Abnormal	49	56.3
Hypotonic LES (P < 10 mmHg)	40	46.0
Overall length LES Short	0	0
Abdominal length LES Short	16	18.4
UPPER GASTROINTESTINAL ENDOSCOPY		
Hiatus hernia	18	20.0
Esophagitis	4	4.5
Grade A Los Angeles	3	3.4
Grade B Los Angeles	1	1.1
Barrett's esophagus	2	2.9

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Conclusions

1. Prevalence of GERD is very high in bariatric candidates
2. Reflux symproms strongly associated with positive pH findings
3. Esophagitis predicts GERD
4. Absence of symptoms cannot rule out GERD

Surgery for Obesity and Related Diseases 12 (2016) 622–628

Original article

Esophageal abnormalities in morbidly obese adult patients

Francisco Mora, M.D., Ph.D.[a], Norberto Cassinello, M.D., Ph.D.[b], Maria Mora, M.D.[a], Maia Bosca, M.D.[a], Miguel Minguez, M.D., Ph.D.[a], Joaquin Ortega, M.D., Ph.D.[b,*]

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Received May 4, 2015; accepted August 5, 2015

224 bariatric surgical candidates submitted to

- Clinical history
- Upper GI endoscopy
- Sationary esophageal manometry
- 24-H pH monitoring
- Isotopic emptying of the esophagus

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Table 1

Symptoms of GERD in morbidly obese patients

Presence and severity of symptoms in morbidly obese patients				
Symptom	Patients	Grade 1 (mild)	Grade 2 (moderate)	Grade 3 (severe)
Heartburn	114 (50.9%)	70 (61.4%)	43 (37.7%)	1 (.8%)
Regurgitation	64 (28.6%)	36 (56.2%)	28 (43.8%)	—
Dysphagia	34 (15.1%)	27 (79.4%)	6 (17.6%)	1 (2.9%)
Chest pain	17 (7.5%)	14 (82.3%)	3 (17.7%)	—

Endoscopic findings in morbidly obese patients

	Total obese patients (N = 196)	Obese reflux symptoms (N = 106)	Obese no reflux symptoms (N = 90)
Hiatal hernia	28 (12.5%)	21 (19.8%)	7 (8.8%)
Reflux esophagitis	34 (17.3%)	23 (21.7%)	11 (12.2%)
Grade A	23 (11.7%)	16 (15.09%)	7 (7.7%)
Grade B	9 (4%–6%)	6 (5.6%)	3 (3.3%)
Grade C	—	—	—
Grade D (Barrett)	2 (1.2%)	1 (.9%)	1 (1.1%)
Duodenal ulcer	4 (2.4%)	2 (1.8%)	2 (2.2%)
Gastritis/duodenitis	17 (8.6%)	10 (9.4%)	7 (7.7%)
Helicobacter pylori positive	123 (62.7%)	59 (55.6%)	64 (71.1%)

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Esophageal manometry in morbidly obese patients

	Total obese patients (N = 221)
Normal manometry	147 (66.5%)
Pathologic manometry*	74 (33.4%)
Hypotensive LES (<10 mm Hg)	47 (21.2%)
Hypertensive LES (>45 mm Hg)	1 (.4%)
Incomplete LES relaxation	6 (2.7%)
Nutcracker esophagus	21 (9.5%)
Diffuse esophageal spasm	3 (1.3%)
Ineffective esophageal disorder	7 (3.2%)
Nonspecific esophageal disorder	5 (2.3%)

Results of 24-hour pH monitoring in morbidly obese patients

	Control group (N = 36)	Obese patients (N = 221)	Obese reflux + (N = 120)	Obese reflux – (N = 101)
% Time pH <4 (total)	1.4 ± 1.1	6.9 ± 9.3*	13.8 ± 14.5*	1.8 ± 1.4
% Time pH <4 (erect)	2.2 ± 1.7	7.0 ± 8.9*	14.0 ± 12.6*	2.9 ± 2.0
% Time pH <4 (supine)	.4 ± 1.1	6.9 ± 12.2*	13.0 ± 14.7*	.4 ± 1.4
Number of reflux episodes	9.0 ± 7.4	88.6 ± 109.8*	122.3 ± 105.3*	30.4 ± 26.0
Number of reflux >5 min	.7 ± .8	2.8 ± 3.7*	5.5 ± 3.7*	.6 ± .8
Longest reflux (min)	5.1 ± 3.8	21.0 ± 42.4*	37.0 ± 46.3*	5.3 ± 4.8
De Meester score	2.5 ± 2.2	31.4 ± 55.9*	49.3 ± 56.0*	7.9 ± 6.0

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Conclusions

- High prevalence of GERD in bariatric surgery candidates
- Symptoms are highly non-specific and therefore not good markers of GERD
- No relation between BMI and absence or presence of GERD symptoms, hiatus hernia, esophagitis or abnormal pH
- High prevalence of manometric abnormalities, a low LES pressure being the commonest

Gastro-esophageal Reflux and Esophageal Motility Disorders in Morbidly Obese Patients

M. Suter[1,4]; G. Dorta[2]; V. Giusti[3]; J. M. Calmes[1]

Obesity Surgery, 14, 959-966

345 patients awaiting bariatric surgery submitted to

- Clinical history regarding symptoms
- Upper GI endoscopy
- Stationary esopaheal manometry
- 24-H pH monitoring

275 women, 70 men, mean age = 38 , mean BMI = 44,7

- At least monthly heartburn and/or regurgitation in 35,8 %

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- Reflux symptoms in 35,8 % of patients. HH in 52,6 %.
- Hiatus hernia more common in patients with symptoms
- Reflux esophagitis in 31,4 % of patients, more in males
  Heavier, higher waist-hip ratio, more common with symptoms (58,6 vs 17,9 %), more common with hiatus hernia (79,6 % HH with esophagitis). Mostly mild.
- 24-H pH study abnormal in 73,2 % of patients
  - De Meester score > 14,7 in 51,7 %
  - Increased number of reflux episodes most common finding
  - 69,4 % of patients with symptoms and 47,3 % without symptoms had abdnormal findings
  - More abnormalities in patients with hiatus hernia and/or reflux esophagitis

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Conclusions

Symptoms ≠ GERD

Absence of symptoms ≠ Absence of GERD

Risks of GERD

- Directly associated with reflux/regurgitation
  - Aspiration pneumonia
  - Lung abscess
- Related to esophageal exposure to acid/bile
  - Esophagitis
  - Barrett's esophagus
  - Adenocarcinoma

Diagnosis of GERD

- Symptoms are insufficiently reliable
- Objective testing is necessary
  - Endoscopy
  - pH-study
  - Bravo capsule
  - pH-impedancemetry
  - High resolution esophageal manometry

Conclusions

- GERD is common in bariatric patients
- Several bariatric procedures may worsen GERD or lead to de-novo GERD
- Some bariatric procedures improve GERD
- The effects are not uniform
- Objective tests are imperative to evaluate GERD

Conclusions

- GERD is common in bariatric patients
- Several bariatric procedures may worsen GERD or lead to de-novo GERD
- Some bariatric procedures improve GERD
- The effects are not uniform
- Objective tests are imperative to evaluate GERD
- The absence of symptoms does not mean the absence of GERD

Thank you for your attention