

Complications in the
Management of
Gastroesophageal Reflux:
the Obese Patient

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GERD Therapy is complicated by Obesity

- Other factors may be a problem
 - Esophageal dysmotility
 - Recurrent surgery
 - Respiratory damage
 - Mental health issues
 - Eating disorders

The patient with GERD



Obesity is an epidemic

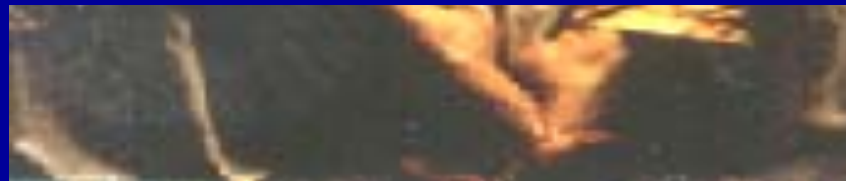
GERD is an epidemic

Esophageal Cancer is Epidemic

Treatment of obesity helps GERD

GERD Therapies are affected by Obesity

Reducing GERD reduces EAC risk



Obesity is an Epidemic

Obesity

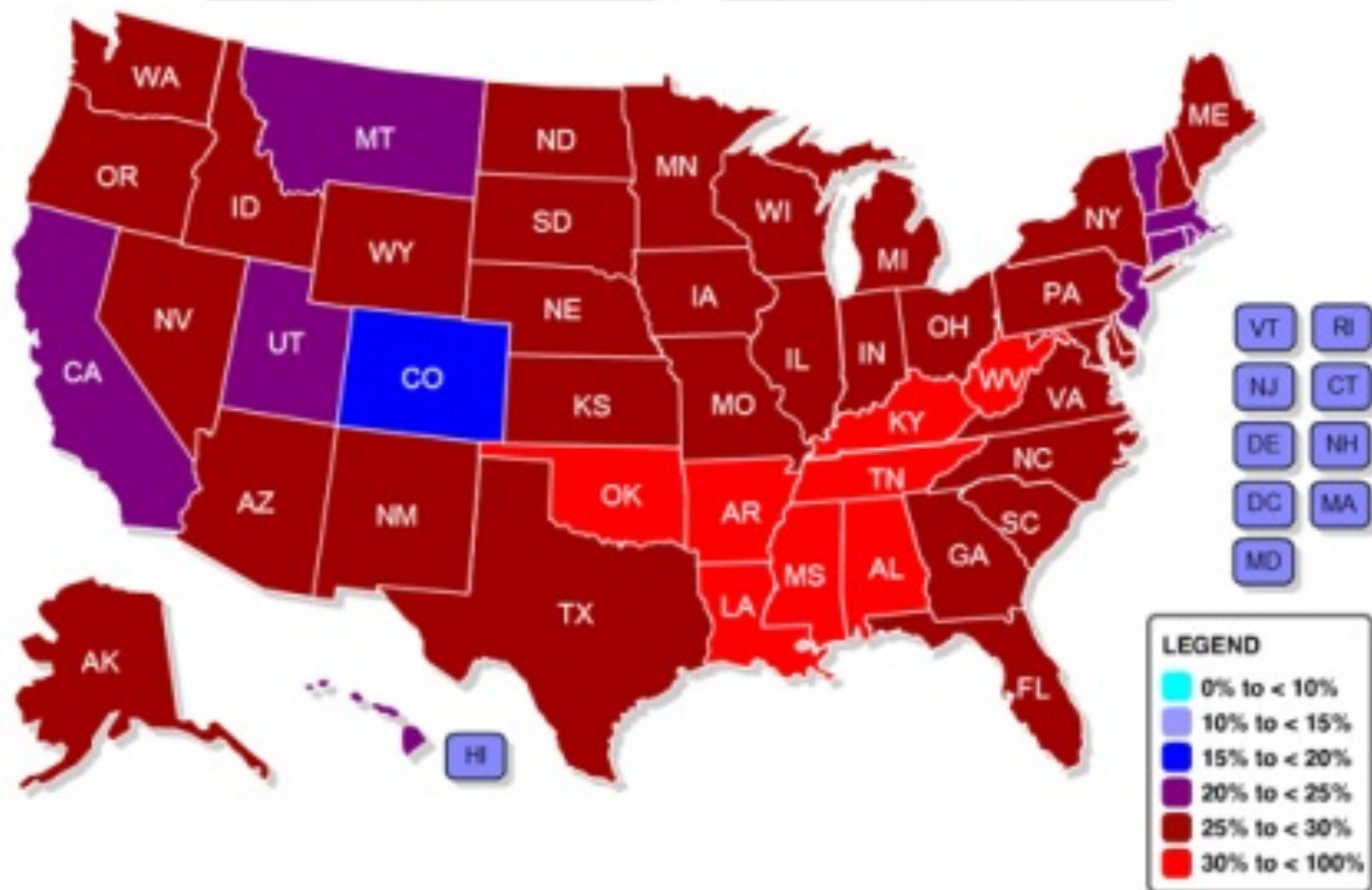
- US: 31% of adults and 28% of children
- WHO:
- Worldwide obesity doubled since 1980.
- 65% of the world's population live in countries where overweight and obesity kills more people than underweight.
- Fifth leading cause of death worldwide.

– <http://www.who.int/mediacentre/factsheets/fs311/en/>

Adult Obesity Rates and Childhood Obesity Rates

ADULT OBESITY RATES

CHILDHOOD OBESITY RATES



GERD is an Epidemic

AHRQ Study 2007; Hospitalizations for Problems Caused by Severe Acid Reflux Increase by 103%

- 103% Increase in hospitalizations for treating disorders caused by GERD 1998-2005
- 216% increase in hospitalizations of patients who, in addition to the ailment for which they were admitted, had milder forms of GERD

News and Numbers from the Agency for Healthcare Research and Quality (AHRQ)

<http://www.ahrq.gov/news/nn/nn010208.htm>

Population Prevalence

- 3-4% prevalence of esophagitis in general population
- Survey of “normal individuals” (hospital employees)
 - 7% experience HB daily
 - 14% experience HB weekly
 - 15% experience HB monthly
- Pregnant women: 25% experience daily HB

Obesity is a risk factor for GERD

- Cross sectional population based survey
- 1524 pts evaluated for GERD and risk factors
- Smoking, ETOH, high psychosomatic score,
- BMI>30, Pos family History best indicators
- Conclusions:
- BMI>30(Odds Ratio=2.8) assoc with GERD

• Locke GR, et al . Am J Med, 1999

Association of Obesity With Hiatal Hernia and esophagitis

- Retrospective review of 1039 pts
- BMI, Hiatal Hernia and Esophagitis studied
- Hiatal Hernia correlated to elevated BMI
- Esophagitis correlated to elevated BMI
- Esophagitis correlated to pos Hiatal Hernia
- Conclusion: Increasing BMI independently associated risk factor for Hiatal hernia, esophagitis and Gastroesophageal reflux

– Wilson LJ, Am J Gastroenterology, 1999.

Obesity and GERD

- Comparison of pH and manometry
- Subset of BMI > 35
- Manometry : normal (normal LES)
- pH: elevated dist esoph acid exposure
- Conclusion: Elevated BMI associated with failure of normal LES

- Wajed SA, Arch Surg. 2001

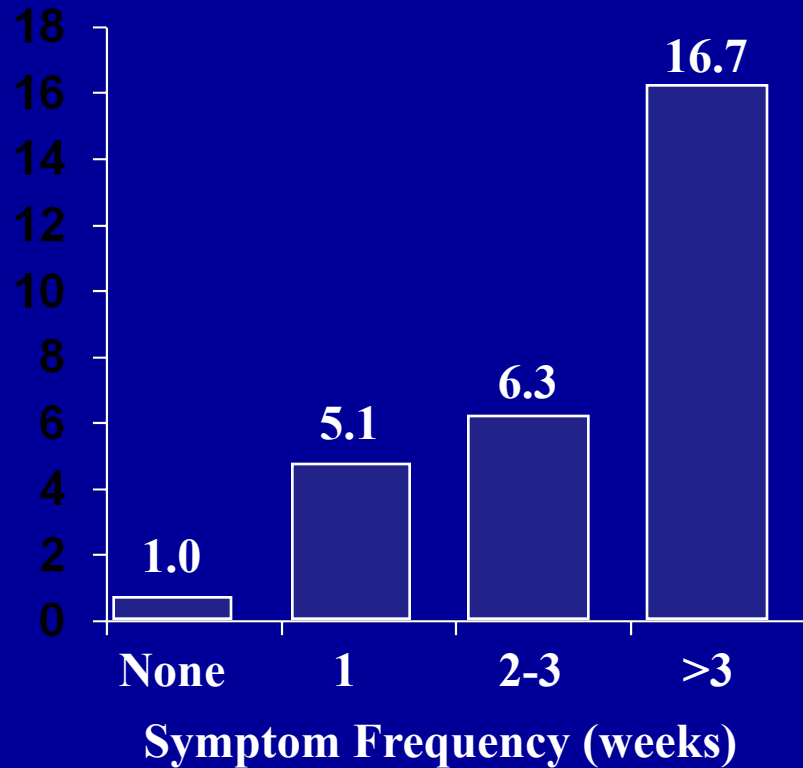
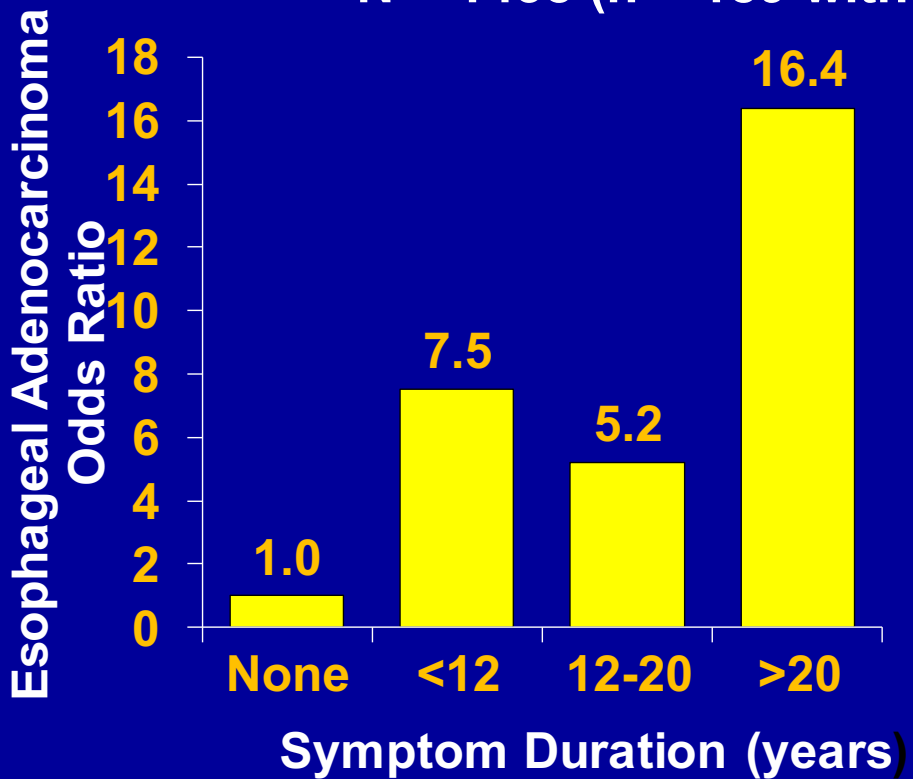
Esophageal Cancer is Epidemic

Esophageal Cancer

- 14,520 new cases of esophageal cancer in US 13,570 cancer related deaths.
- 480,000 cases worldwide per year
- The incidence of esophageal adenocarcinoma (EAC) has increased 350% since 1970.
- Disparate rates among countries
 - 24 per 100,000 in Chinese Males
 - 1 per 100,000 in Western Africa

Risk factors for esophageal adenocarcinoma: Reflux

N = 1438 (n = 189 with esophageal adenocarcinoma).



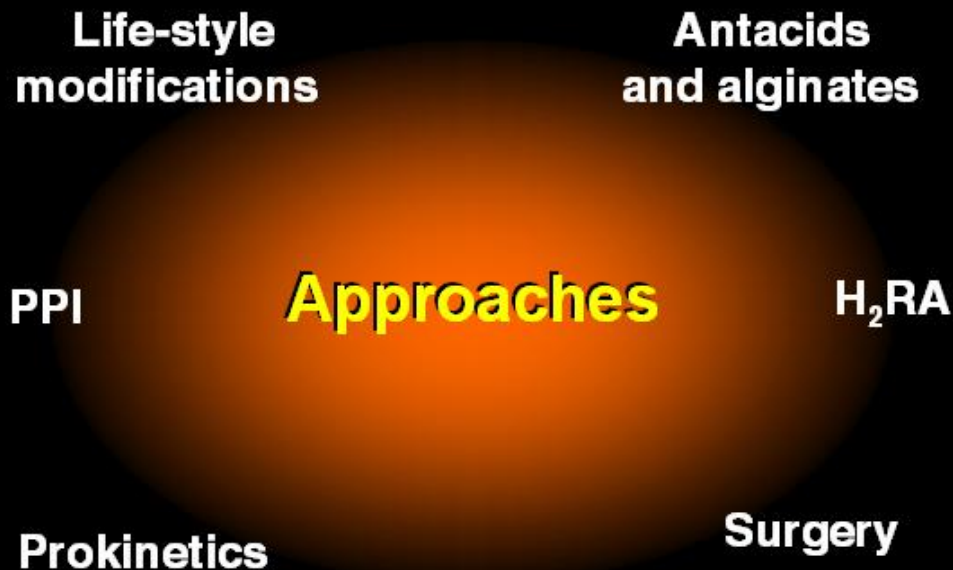
1999;340:825-831. Lagergren et al. N Engl J Med

Screening Recommendation of the ACG

- “Patients with chronic GERD symptoms are those most likely to have Barrett’s esophagus and should undergo upper endoscopy”
 - White males over 50 w/ chronic GERD
 - Patients with frequent heartburn and nocturnal symptoms

Treatment of GERD

GERD: Therapeutic approaches



EGD Indications

- “Once in a lifetime”: detects Barrett’s
- Heartburn for 5 years or longer
- Atypical features (warning signs)
- Failure to respond to proton pump inhibitor (PPI)

Medical Treatment of GERD

- PPI's remain the #1 choice
- Is the standard dosage adequate for Obese
- Current Recommendations are based on ideal weight
- Volume of distribution may not be accurate
- Increased doses may not help
- Weight loss may be the answer

Weight Loss Has an Independent Beneficial Effect on Symptoms of Gastro-oesophageal Reflux in Patients Who Are Overweight.

- Selected 34 pts with GERD and BMI >25
- pH probe and symptom questionnaire
- 27 pts lost weight (mean of 4kg) mean reduction of symptoms by 75%
- Nine pts had no symptoms after wgt loss
- Direct correlation between symptom score and wgt loss: Losing wgt reduces GERD.

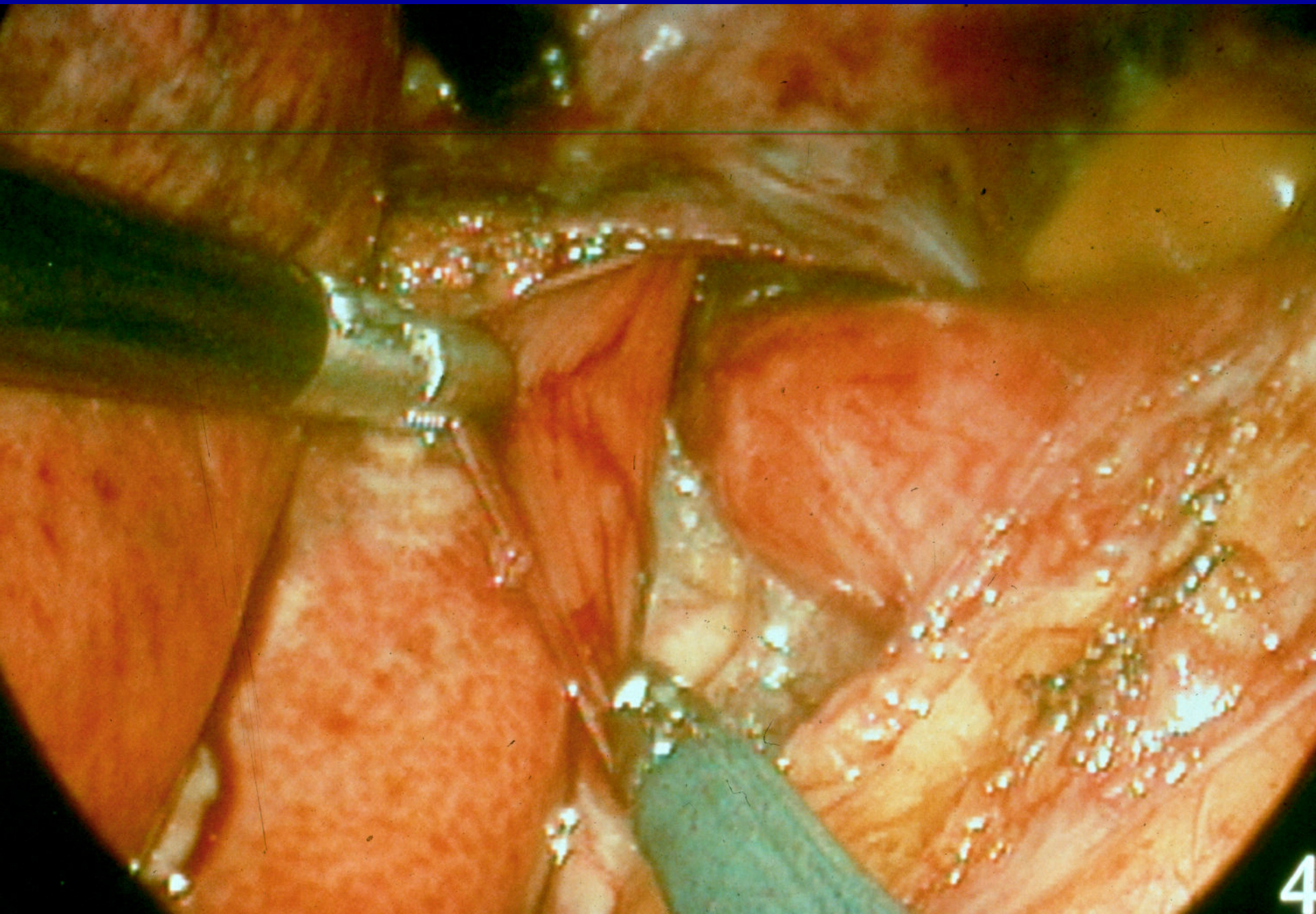
– Fraser-Moody CA, et al. Scan J Gastro, 1999

Symptomatic and clinical improvement in morbidly obese patients with gastroesophageal reflux disease following Roux-en-Y gastric bypass

- Review of 188 pts with CSO and GERD
- Primary operation was RNYGB with a Hill posterior Gastropexy (follow up 4-48 mos)
- PPI use 100% to 14/188
- Symptoms reduced in all pts
- BMI decreased from 43 to 30.2

Symptomatic improvement in GERD following laparoscopic Roux-en-Y gastric bypass.

- 235pts with pre op GERD (mean BMI 48)
- PPI use 44 to 9%
- H2 use 60 to 10 %
- Heartburn 87 to 22%
- Waterbrash 18 to 7%
- 97% pts :very satisfied”
 - Frezza EE, Ikramuddin S, et al. Surg Endosc, 2002



Failure models for LS Nissen

- 43 failures (of 174 known outcomes)
- Failures: 26 reoperations, 13 unsatisfied. 13 severe symptoms
- Risk Factors::
- Atypical Symptoms
- Response to PPIs
- BMI > 35
 - Morgenthal, CB, Surg Endosc. 2007

Obesity Adversely Affects the Outcome of Antireflux Operations

- Retrospective review of 224 pts,
- 187 LNF, 37 Belsey Mark IV
- 89 nml, 87 overweight, 48 obese
- Recurrence: 4.5%, 8%, 31% per group(11.6%)
- Recurrence higher in BMIV
- Obesity adversely affects Antireflux surgery

– Perez AR, et al. Surg Endosc, 2002.

Outcomes in BMI>35

- Prospective Evaluation of 70 pts
- Avg BMI 38.4 (35-51)
- Pre and post op symptoms score and pH
 - Compared to 70 controls, BMI<30
- One conversion, LOS longer (3.17 vs 2.2)
- Improved symptom score and pH
- Obese pts had more post op symptoms
 - Anvare M, et al, Surg Encosc 2006

Nissen Outcomes in the Obese

- Matched consecutive pts at Ohio State
- 53 < 30 BMI v. 61 > 30 BMI ,
- OR time, 100 v 117 minutes. P=.003
- Pt score at one year GERD-HRQL, PPI use
- Symptom score decreased in both groups
 - NO Difference in groups
- PPI use
 - 86% vs 76.3 % (p=0.28)

Surgical Treatment of GERD in the Obese

- Primary weight loss operations do make an impact
- Nissen has controversial results and is not well studied for the very obese
- Nissen failures are increasingly recognized and difficult to deal with
- New technologies are not well studied in the obese and many have excluded them

Incidence of GERD after Sleeve

- Not the same therapeutic Rn Y GB
- Not appropriate for patients with GERD
- About 30% of pts post op will develop GERD after sleeve
- Alternative treatment in the post op sleeve patients (Stretta)

Conclusion and Recommendation: GERD and BMI > 35

- EGD , Ba Swallow, (pH, Manometry)
- PPI's and medical wgt loss
- Consider endoluminal or other new technology for treatment if no Hiatal Hernia
- Dietary/Nutritional Counseling
- Informed consent, medical evaluation
- ROUX- EN- Y GASTRIC BYPASS

Summary

- The association with Obesity, GERD and Esophageal Cancer is clear.
- Drugs to effect GERD may be inadequate.
- Primary antireflux surgery in the Obese patient may be inadequate.
- Adequate control of acid exposure, weight loss and surveillance may reduce the risk of esophageal cancer.