# Paraoesophageal Hernia

#### **Grand Round**

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# Paraoesophageal Hernia

• Type of hiatal hernia

• Transdiaphragmatic migration of abdominal content

- gastric fundus
- gastric body
- pylorus
- colon
- pancreatic tail
- spleen

## Hiatal Hernia

- Attenuation of phrenoesophageal membrane
- Associations:
  - increasing age
  - obesity
  - delayed gastric emptying
  - family history (? autosomal dominant)

# Classification

Hernia Type	Location of GOJ	Hernia Contents
I (sliding)	Intrathoracic	Gastric cardia ± fundus
II (paraoesophageal)	Intraabdominal	Gastric fundus ± body
III (mixed)	Intrathoracic	Gastric fundus & body
IV	Intrathoracic	Gastric fundus, body & other abdominal organs









Diaphragm

 Paraesophageal Hernia

Barium in fundus of stomach above diaphragm









## Hiatal Hernia

- Exact prevalence unknown
- Many people asymptomatic
- Type I hernia
  - most common
  - more common in women,  $5^{\text{th}}/6^{\text{th}}$  decades
- Type II
  - 'true' paraoesophageal hernia rare
  - 147 (0.32%) of 46,236 Mayo Clinic pts with hiatal hernia
  - more common in women (×2), increasing age

- Most type I & III hernias diagnosed incidentally
- Type II hernias frequently found on chest x-ray
- Type I hernia
  - GORD
  - heartburn
  - regurgitation

- Type II/III hernias
  - mechanical symptoms
  - epigastric pain
  - postprandial fullness or discomfort
  - dysphagia
  - abdominal bloating
  - respiratory problems
  - ? past history of GORD symptoms

- Acute symptoms
  - complete obstruction of intrathoracic stomach
  - mimic myocardial infarction
  - type II/III hernias
  - incarceration, volvulus, strangulation, perforation
  - surgical emergency
- Borchardt's triad
  - chest pain
  - retching with inability to vomit
  - inability to pass NGT



- Anaemia
  - often overlooked
  - chronic GI blood loss
  - 1/3 patients with type II hernias
  - linear ulcerations of gastric cardia



- Gastroscopy
  - attempted in all patients
  - assess distal oesophagus & stomach
  - caution not to overinflate stomach
- CT chest/abdomen
- No nonoperative treatment



- Patient selection for surgery controversial
- Previously surgery for all pts with type II/III hernia
- Report in 1967 of mortality = 30% (6/21 patients)
- Recent series of 23 patients followed for 78 months
- No life-threatening complications
- Symptoms unchanged in 83%



- Elective repair
  - select asymptomatic patients
  - symptoms
  - oesophageal mucosal damage (e.g. oesophagitis, Barrett's)
  - anaemia
- Sliding hernia managed as GORD

# **Operative Technique**

- Operative correction should:
  - return hernia content to anatomically correct position
  - resect hernia sac
  - establish adequate oesophageal length
  - return GOJ to intraabdominal position
  - repair hernia defect
  - prevent recurrence
  - minimise morbidity

# **Operative Technique**

- Thoracic vs abdominal
- Open vs laparoscopic vs thoracoscopic
- Laparoscopic approach now most common
- Laparoscopic
  - enhanced recovery
  - technically challenging
  - complications & failure with inexperienced surgeon
  - technique should not differ from open
  - long-term outcome still uncertain

## Outcomes

- 88% report significant improvement in symptoms
- Sustained improvement for up to 4 years after repair
- 92% with anaemia have resolution post-op
- Anatomical failure remains high
- 41% develop recurrent hernia 4 years after lap repair
- 15% anatomical recurrence after open repair
- Probably insignificant in most
- Better to avoid overtreatment



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## Controversies

- Anti-reflux procedure for type II hernia
  - limited data
  - many have a past history of GORD symptoms
  - 30% of patients have GORD unmasked after repair
  - fundoplication may avert GORD
  - anchors stomach in abdomen
  - ? prevents recurrence

#### Controversies in paraesophageal hernia repair

#### A review of literature

W. A. Draaisma, H. G. Gooszen, E. Tournoij, I. A. M. J. Broeders

Department of Surgery, University Medical Center Utrecht, Heidelberglaan 100, Post Office Box 85500, 3508 GA, Utrecht, The Netherlands

Received: 2 December 2004/Accepted: 17 March 2005/Online publication: 4 August 2005

- Review of 32 publications
- No RCTs comparing laparoscopic with open
- Conversion rate 2.4% (range 0 19.4%)
- Mortality rate:
  - laparoscopic 0.3% (range 0 − 5.4%)
  - open 1.7% (range 0 3.7%)

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- Hospital stay:
  - laparoscopic 3 days (range 2 6)
  - open 10 days (range 7 10)
- Post-op complications more frequent for open
  - pneumonia
  - thrombosis
  - haemorrhage
  - urinary tract infection
  - wound infections

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- Median follow-up:
  - open 45 months
  - laparoscopic 17.5 months
- Recurrence rate:
  - open 9.1% (range 0 44%)
  - laparoscopic 7.0% (range 0 − 42%)
- Recurrence rate may decrease with usage of mesh

## Controversies

- Mesh repair
  - reports of mesh eroding into oesophagus
  - progression to oesophagectomy in several patients
  - recent RCT comparing biomesh (reabsorbed) vs no mesh
  - significant reduction in hernia recurrence at 6 months
  - cautious use of biomesh