Quick Review: The Benign Gastric Ulcer
B Phillips, C Perry

Citation

Abstract
Peptic ulcer disease historically presented as a surgical disease; however, with the advent of medical regimens targeted at acid production (e.g. H2-blockers, proton-pump inhibitors, etc), it has become a relatively infrequent surgical problem. When it does present, GU is most common in males & the elderly (peak age: 55 - 65). 90,000 new gastric ulcers are diagnosed annually and 3,000 patients die/yr. as a direct result or complication of gastric ulcer disease. 10% of all gastric ulcers - occur over an underlying Malignancy.

IN GENERAL
Peptic ulcer disease historically presented as a surgical disease; however, with the advent of medical regimens targeted at acid production (e.g. H2-blockers, proton-pump inhibitors, etc), it has become a relatively infrequent surgical problem.

- Most Common in Males & the Elderly
- Peak Age: 55 – 65
- 90,000 new gastric ulcers are diagnosed annually
- 3,000 patients die/yr. as a direct result or complication of gastric ulcer disease
- 10% of all gastric ulcers - occur over an underlying malignancy
- Type I: Ulcer along the lesser curve
- Type II: 2 ulcers present - one gastric, one duodenal
- Type III: Prepyloric ulcer
- Type IV: Proximal gastroesophageal ulcer

ETIOLOGY
High-Acid Production, Types II & III
Defect in the Mucosal Defense, Types I & IV

- epithelial turnover
- hydrophobic surface

Concomitant hemorrhage & perforation is usually due to 2 Ulcers:

- An anterior perforated ulcer (stomach or duodenum)
- A posterior, bleeding one (duodenum)

Both should be identified at the time of the original operation, and will be best treated by a definitive procedure.

5 % of patients who undergo operation for perforation bleed post-operatively due to a synchronous, posterior lesion

Non-operative Treatment of the perforated ulcer:

- Continuous NG Suction
- High-dose Antibiotics
- H2-Antagonists

- Mucus & HCO3- production
- Endogenous prostanoids
- Trophic peptides
- Gastric motility

May be effective in poor-surgical candidates

High incidence of Renal Failure & Abscess Formation
Quick Review: The Benign Gastric Ulcer

85 - 90% of patients are colonized with H. pylori!

TREATMENT

ANTIBIOTICS, ANTI-SECRETORY AGENTS, +/- MUCOSAL DEFENSE AGENT
- e.g. 3 weeks, Bismuth Compound, Tetracyclin, Flagyl
- 12 weeks, H2 Antagonist

INDICATIONS FOR ELECTIVE SURGERY
- Failure of Medical Tx (12 weeks x 2)
- Recurrence after initial success
- Inability to exclude malignancy

INDICATIONS FOR EMERGENT SURGERY
- Hemorrhage
- Perforation

GOALS OF SURGERY
- Correct the emergent problem
- Prevent recurrence, if possible
- Exclude malignancy

SURGICAL OPTIONS
1. Vagotomy -
   - Truncal
   - Selective
   - Parietal-Cell (highly-selective)

2. Pyloroplasty -
   - Heineke-Mikulicz
   - Finney
   - Jaboulay

3. Antrectomy -
   - Billroth I (gastroduodenostomy)
   - Billroth II (gastrojejunostomy)
   - Roux-en-Y Gastrojejunostomy

Cameron’s Text: the definitive ulcer operation should include a distal gastrectomy (with excision of the ulcer, if possible) and a Billroth I reconstruction

HOWEVER
1. Pt's - requiring Blood Transfusions (“Stable”):
   V & A
2. Pt's with life-threatening Sepsis/Hemorrhage:
   Biopsy (6)
   Excision or Oversew
3. Pt's with an Unstable-Type IV:
   Ligation of the Left Gastric Artery
   High Anterior Gastrotomy
   Biopsy/Excision & Oversew

COMPLICATIONS OF ULCER SURGERY
Early: Duodenal Stump Leak
- Gastric Retention
- Anastomotic Breakdown
- Hemorrhage

Late: Recurrent Ulcer
[10% following V & P]
[2 - 3% following V & A]
Gastrocolic/Gastrojejunal Fistula
Dumping Syndrome - [1 - 2% of patients]
Alkaline Gastritis
Anemia [30% of patients, five years post-op]
Postvagotomy Diarrhea [5 - 10% of patients]
Chronic Gastroparesis
* may require a Roux-en-Y Esophagojejunostomy

References
Author Information

Bradley J. Phillips, M.D.
Dept. of Trauma & Critical Care, Boston University School of Medicine, Boston Medical Center

Charles W. Perry, M.D.
Department of Surgery, University of Arizona