

Quick Review: The Benign Gastric Ulcer

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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

- mucus & HCO₃⁻ production
- endogenous prostanoids
- trophic peptides
- gastric motility

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

ETIOLOGY

High-Acid Production, Types II & III

Defect in the Mucosal Defense, Types I & IV

- epithelial turnover
- hydrophobic surface

- May be effective in poor-surgical candidates
- High incidence of Renal Failure & Abscess Formation

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
- Anastamotic 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

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