Surgery of The Stomach (2)

By

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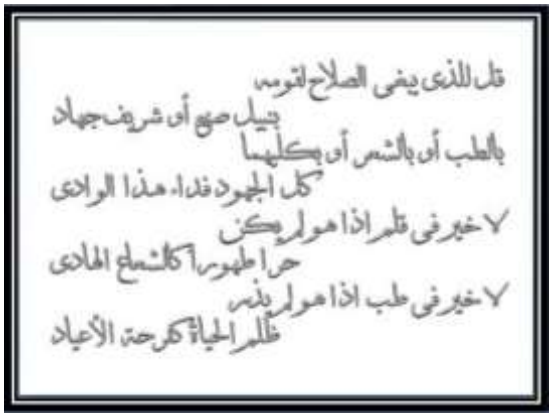
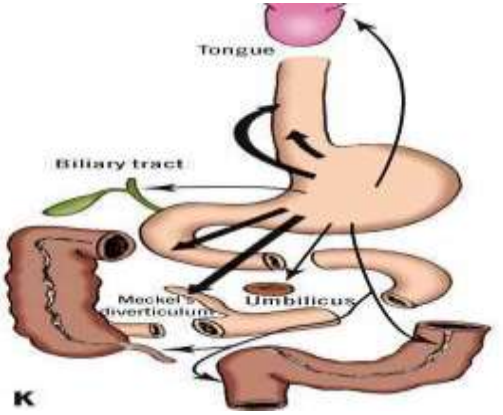


Surgery of the stomach and duodenum:

*- Congenital hypertrophic pyloric stenosis
*- Acute gastric dilatation
*- Peptic ulcer disease (acute erosions – chronic peptic ulcer)
*- Gastric volvulus
*- Bezoars
*- Gastric neoplasms
*- Gastrectomy, and its complications
*- Gastrostomy
*- Gastric role in bariatric surgery

Peptic ulcer disease

Nature
Sites of peptic ulcer disease
Etiology
Types:
- Gastric erosions (erosive gastritis)
- Stress ulcers e.g. ICU patients, trauma patients, intra-cranial trauma or operations (Cushing ulcer), burned patients (Curling ulcer)
Clinical presentations
Diagnosis
Treatment:
Medical treatment
Endosc. treatment (injections , Laser, or thermal ttt)
Surgical treatment Gastrectomy ??



*- Chronic peptic ulcer

***Etiology:** Increased gastric acidity is the main association, multifactorial by*

* *Genetic predisposition (large parietal cell mass)*
* *Increased vagal tone mainly by night may be by worry or stress*
* *Abnormality in gastrin release and inhibition*
* *Helicobacter pylori causing gastritis, duodenal ulcer and sometimes MALT lymphoma.*
* *Hypergastrinaemia by pancreatic gastrinoma (Zollinger Ellison syndrome)*
* *Spicy meals, drinks, smoking, alcohol , drugs.*

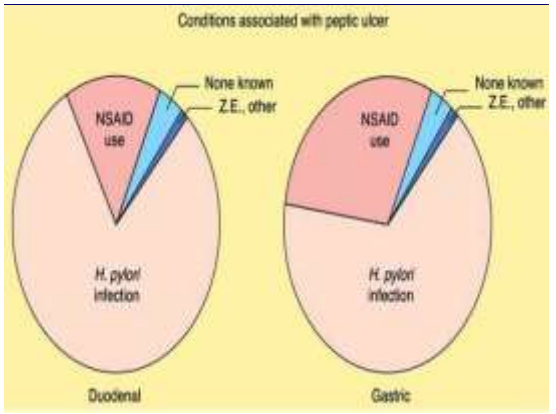
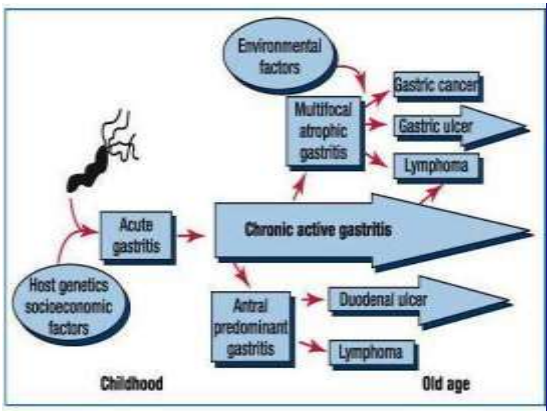


TABLE 35-5 Tests for *Helicobacter pylori*

Test	When to use	Why	Why not
Serologic test	Test of choice when endoscopy is not indicated and is not an option and when the patient has not received antimicrobial therapy for *H. pylori* infection	Noninvasive; sensitivity of >80%, specificity of about 90%	Does not confirm eradication, because serologic "scar" remains for indefinite period after microbiologic cure
Urea breath test	Preferred for confirming cure of *H. pylori* infection, but no sooner than 4 wk after completion of therapy	Simple; sensitivity and specificity of 85 to 99%	False-negative possible if testing is done too soon after treatment with proton pump inhibitors, antimicrobials, or bismuth compounds; small radiation exposure with ^{14}C method; expensive
Histologic test	To directly ascertain presence of *H. pylori* when endoscopy is being used, also used when determination of neoplastic status of lesion is necessary	Sensitivity of 85–100%, specificity of >95%; hematoxylin-eosin and Diff-Quik stains are simplest; Giemsa stain has sensitivity of >95% and specificity of 99%	Requires laboratory facilities and experience; when hematoxylin-eosin stain is nondiagnostic, second staining method is required
Rapid urease test	Simplest method when endoscopy is necessary	Simple, rapid-Since biopsy specimen has been obtained; sensitivity of 80 to 95%, specificity of 95 to 100%	Invasive; false-negatives possible if testing is done too soon after treatment with proton pump inhibitors, antimicrobials, or bismuth compounds
Culture	After repeated failure of appropriate combination antibiotic therapy; when antimicrobial resistance is suspected or high level of resistance exists in the population	Allows determination of antibiotic susceptibility	Time-consuming, expensive, usually not necessary unless resistance is suspected

Source: Reproduced with permission from Graham DY, et al: Postgraduate Medicine 105:113, 1999.



Incidence:

Decreasing incidence of ulcer disease with increased GE reflux and gastritis

More common in males (5:1), age is around middle age (??)

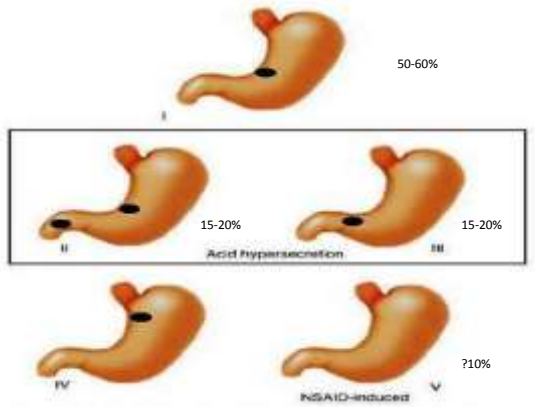
DU : GU = 25 : 1

Pathology:

Site gastric , duodenal (Kissing ulcers)

Size Single or multiple

Shape Edge Floor Base



Clinical presentation:

**- Pain (post prandial , localized , deep, severe, increased by codiments, wores by night)*

**- Nausea and vomiting*

**- Periodicity (periods of activity followed by period of quiescence),loss of periodicity signats complications , penetration, or spastic pyloric stenosis*

**- Complications as bleeding (hematemesis, or melena, hematochasia??), penetration (pancreatitis), perforation (peritonitis), or pyloric obstruction.*

Investigations

*- Endoscopy (diagnosis, Biopsy)

*- Barium meal

*- CT scan, Multislice CT scan

*- MRI scan, Scientigraphy scan

*- Laboratory investigations

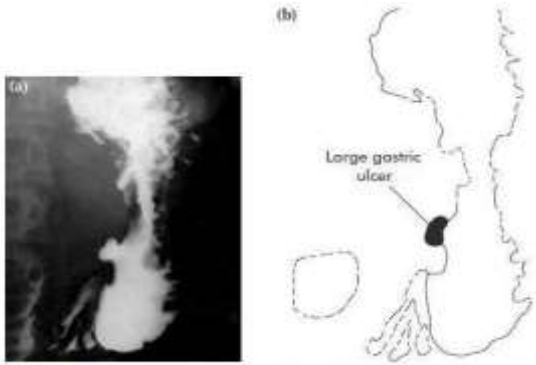
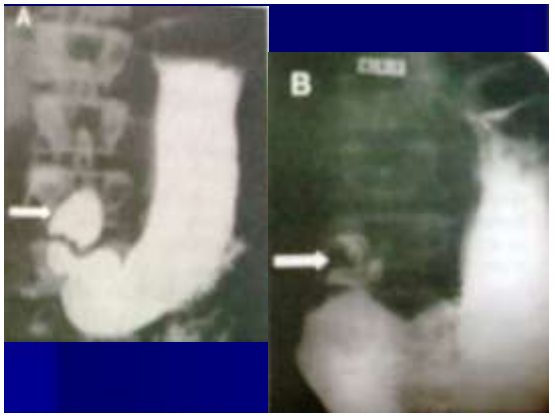


Figure 60.15 Benign gastric ulcer shown by barium meal. (a) Radiograph. (b) Diagrammatic outline.



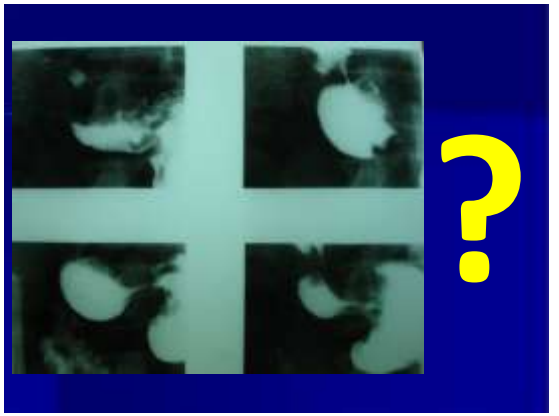


Figure 60.12 Duodenal ulcer at gastroduodenoscopy (courtesy of Dr G.N.J. Tytgat, Amsterdam, The Netherlands).

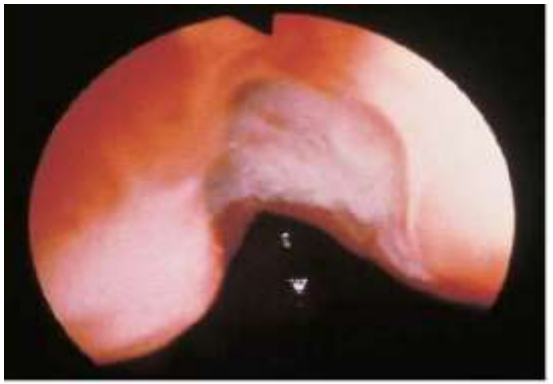
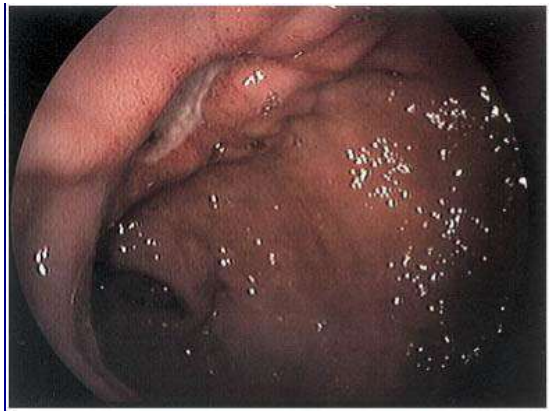
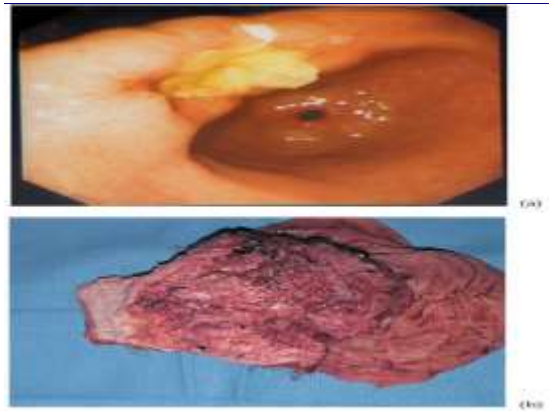


Figure 60.14 Benign incisural gastric ulcer shown at gastroscopy





Treatment:

(Peptic ulcer treatment is mainly medical, surgery has selective indications only)

I- Medical treatment

*- Complete physical and mental rest.

*- Dietary regimens.

*- H2 receptor antagonists:

(Cimetidine 800 mg, Ranitidine 300 mg, Famotidine 40 mg, Nizatidine 300 mg, or Ruxatidine ??)

*- Proton pump inhibitors *(No acid-No ulcer)*:

(Omeprazole 20 mg, Lanzoprazole, Pantoprazole, Rapeprazole, or Esomprazole)

*- Mucosal protective drugs:

(Sucralfait, or prostaglandin analogue,)

*- Antacids:

(Aluminum hydroxide, …..)

*- Anti HP drugs, and their regimens.

(Dual therapy, Triple therapy, or Quadruple therapy).

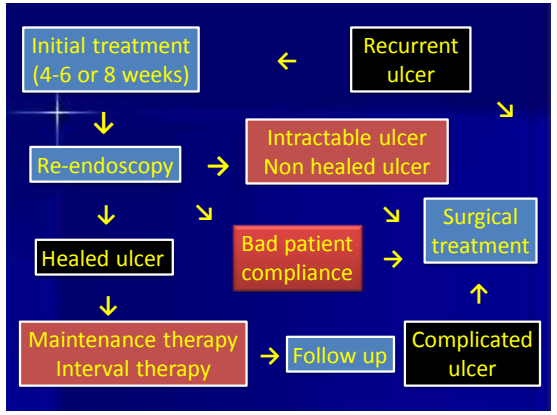
*- Other drugs

Sedative tranquilizers, prokinetics, digestants,..

TABLE 25-6 Treatment Regimens for *Helicobacter pylori* Infections

Bismuth triple therapy
Bismuth, 2 tablets four times daily
plus
Metronidazole, 250 mg three times daily
plus
Tetracycline, 500 mg four times daily
PPI triple therapy
PPI twice daily
plus
Amoxicillin, 1000 mg two times daily
plus
Clarithromycin, 500 mg two times daily
or
Metronidazole, 500 mg two times daily
Quadruple therapy
PPI twice daily
plus
Bismuth, 2 tablets four times daily
plus
Metronidazole, 250 mg three times daily
plus
Tetracycline, 500 mg four times daily

Note: Treatment for 10–14 days is recommended.
PPI = proton pump inhibitor.



Once ulcer

↓

Always ulcer

II- Surgical treatment

Gastric ulcer:

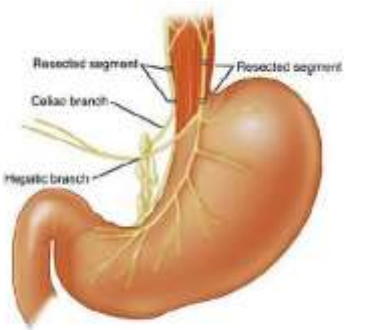
Mainly caused by local defect in mucosal barrier, or local insult, so the treatment is by *gastrectomy (remove the ulcer or the bearing area, and ensure gastric emptying).*

Duodenal ulcer:

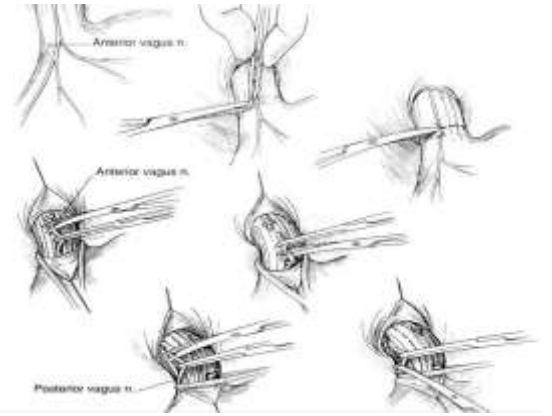
Mainly caused by hypersecretion either due to increased vagal tone (treated by *vagotomy ± drainage procedure*), increased gastrin level (treated by anterectomy), or large parietal cell mass (treated by *gastrectomy*).

Vagotomy: abolishing entirely the pathway of gastric secretion with immediate reduction of HCL secretion in 80 %, with time it decreased to 50 %.

*- Truncal vagotomy + drainage procedure
*- Selective vagotomy + drainage procedure
*- Highly selective vagotomy (parietal cell vagotomy) (proximal gastric vagotomy)
*- lesser curve seromyotomy (+posterior truncal vagotomy) (Taylor operation)



Truncal vagotomy.



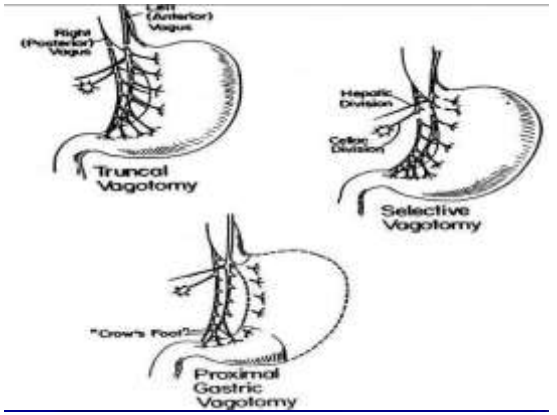
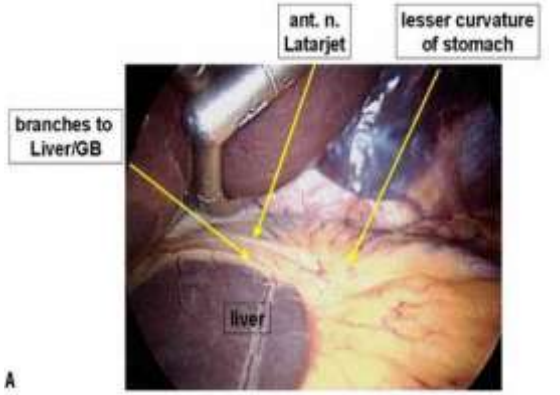
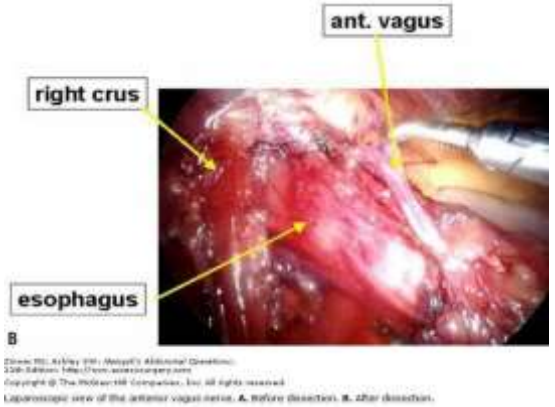


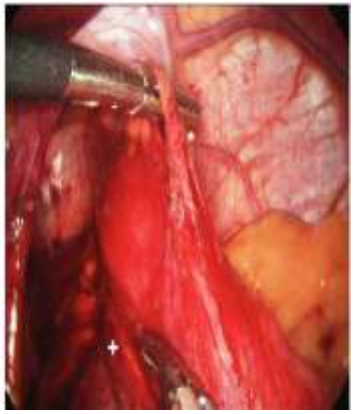
Fig. 15.4 Laparoscopic view of angularis (+) of lesser curve of stomach

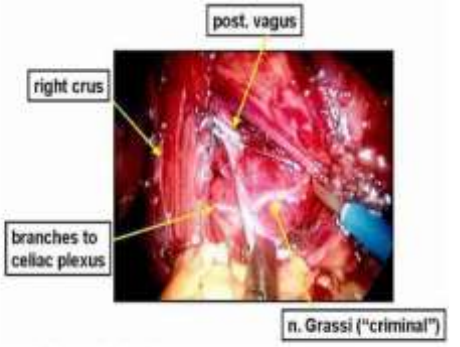


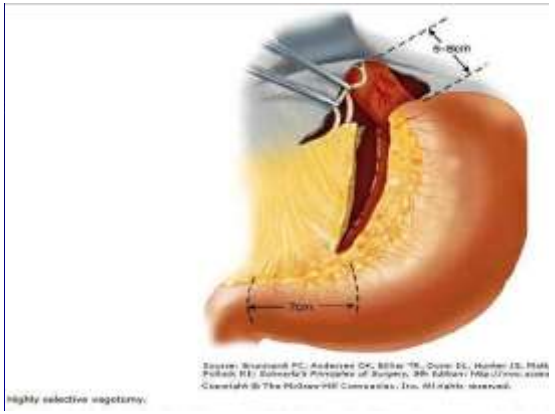


Laparoscopic view of the anterior vagus nerve. **A.** Before dissection. **B.** After dissection.

Fig. 15.6 Laparoscopic view of the anterior (+) and posterior vagus trunks (+)



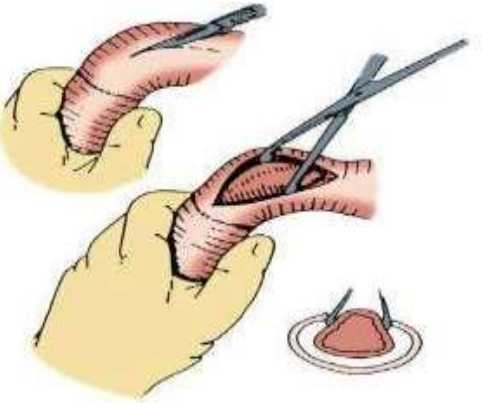


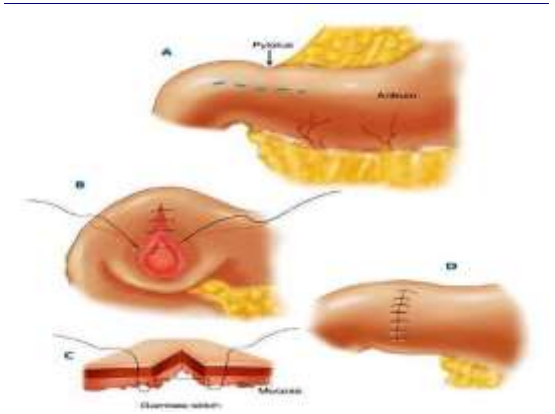


Highly selective vagotomy.

Drainage procedures:

*- Pyloomyotomy (Rammstedt)
*- Heineke-Mikulicz pyloroplasty
*- Finney pyloroplasty
*- Jaboulay pyloroplasty
*- Antrectomy + reconstruction (Billroth I, Billroth II, Polya , or others)
*- Gastrojejunostomy (loop with or without enteroenterostomy, antecolic or retrocolic, isoprestaltic or antiprestaltic, short afferent or ultrashort afferent limb, Roux-en-Y loop.





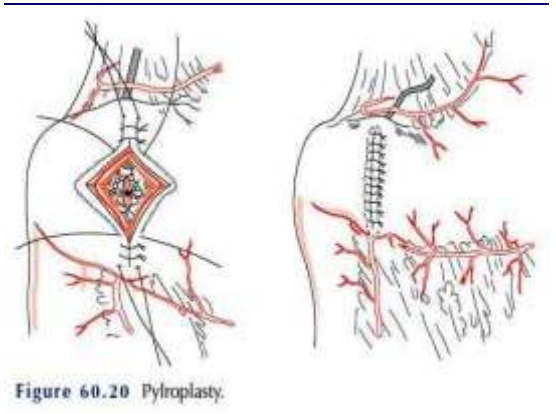
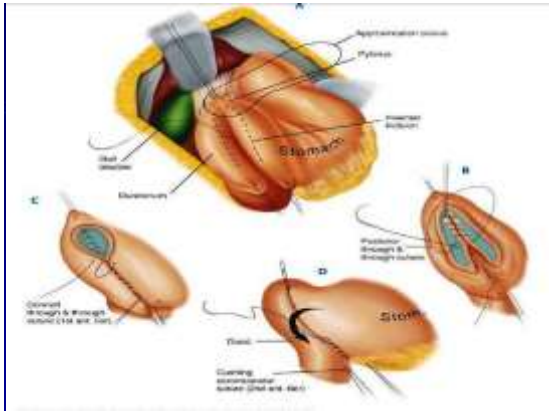
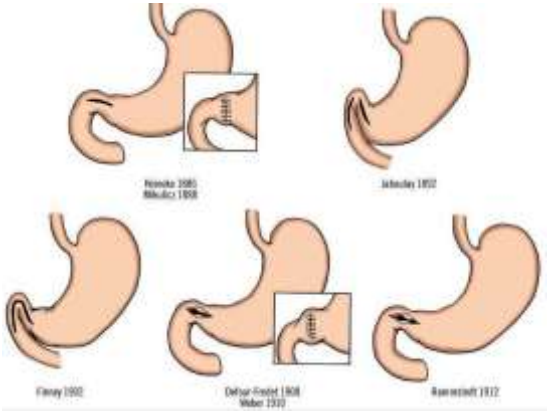
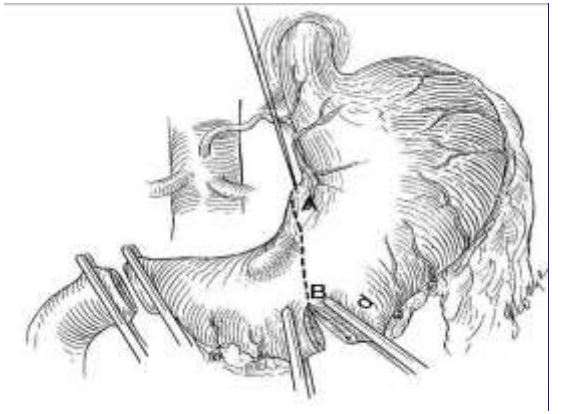


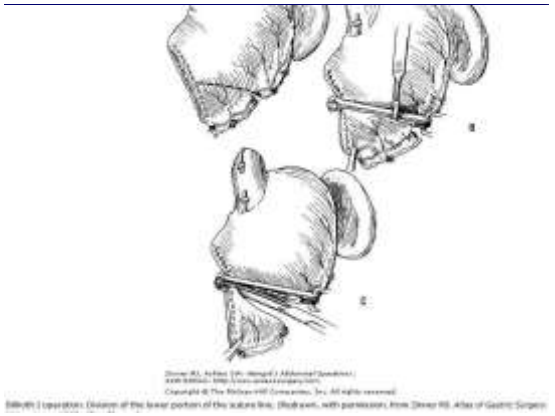
Figure 60.20 Pylroplasty.

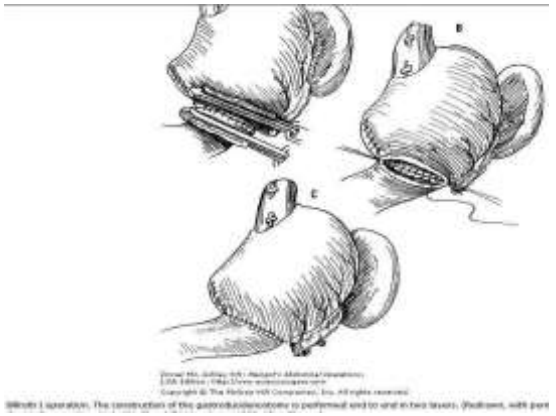
Fig. 15.3 Heinecke-Mikulicz pyloroplasty

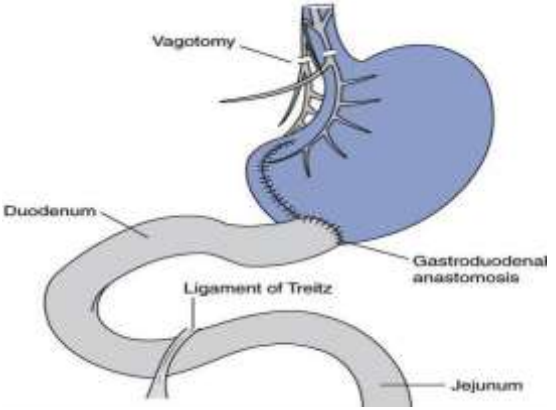












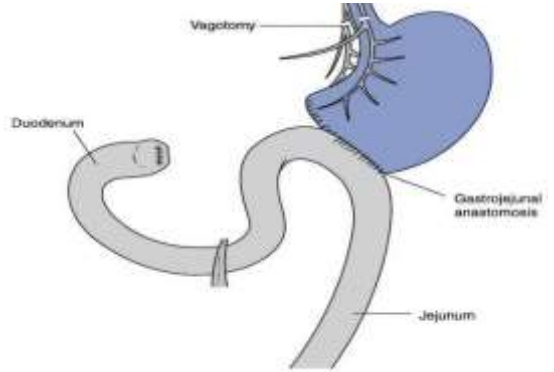
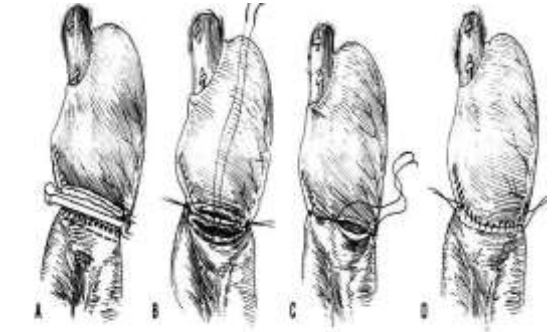
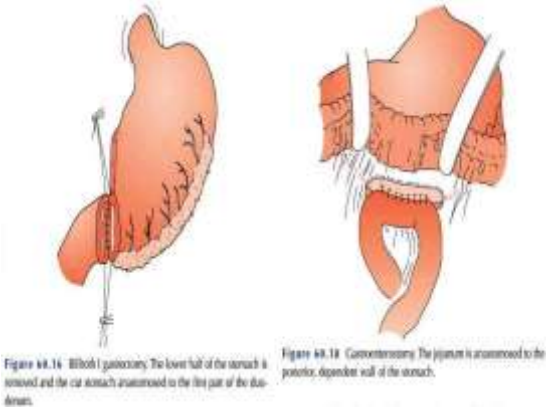


Figure 3–5 • Vagotomy and antrectomy with Billroth II anastomosis.





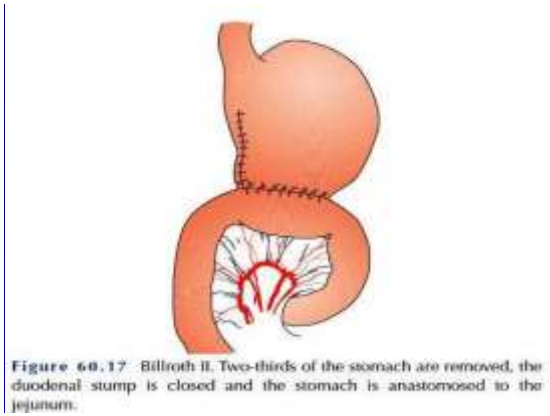
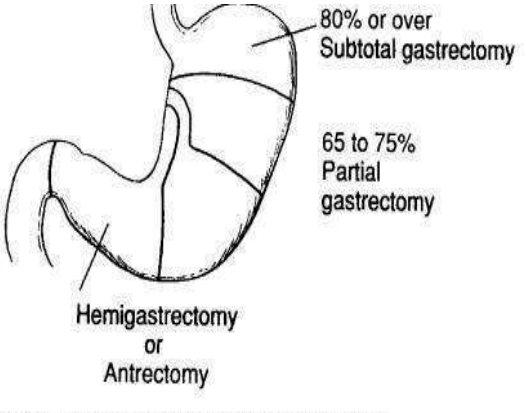
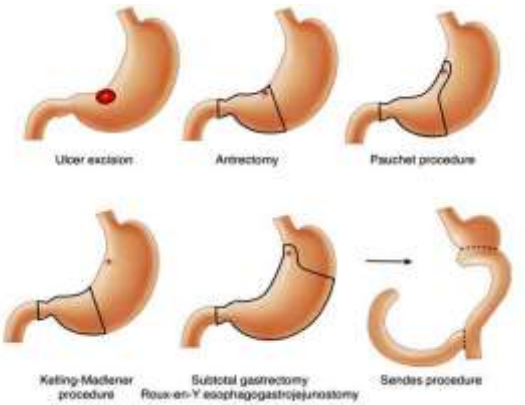
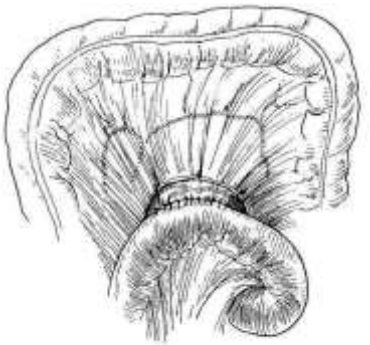


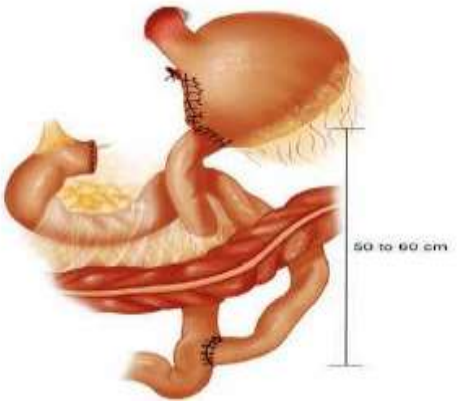
Figure 60.17 Billroth II. Two-thirds of the stomach are removed, the duodenal stump is closed and the stomach is anastomosed to the jejunum.

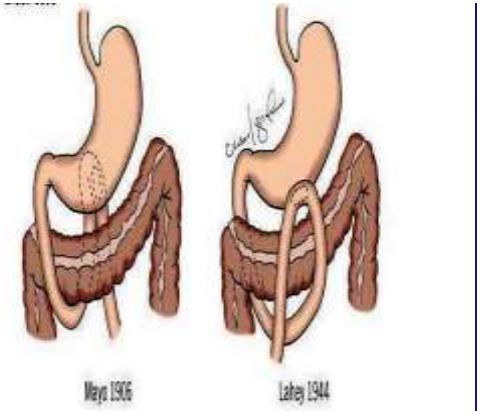


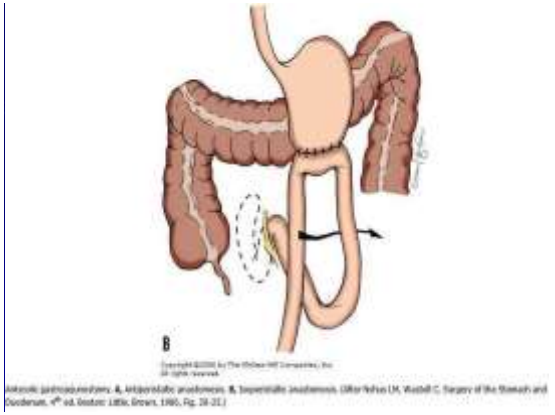


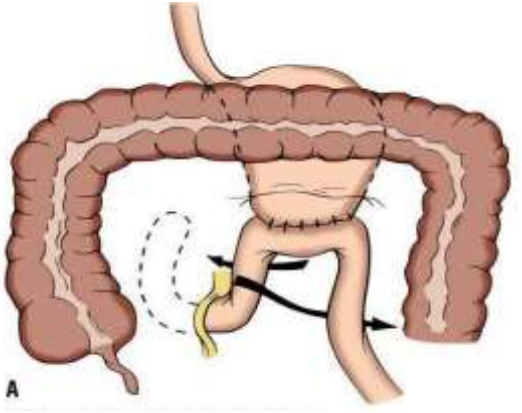


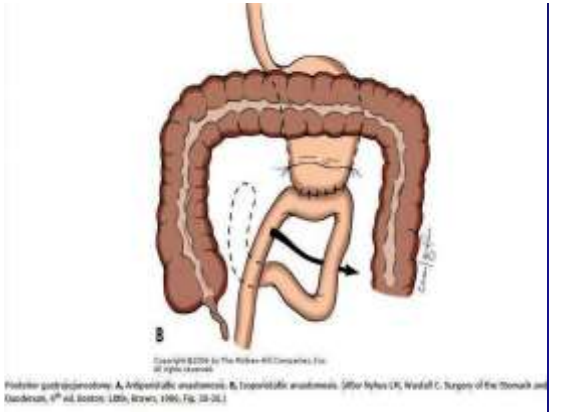
Billroth II operation. The retrocolic window in the mesentery is closed in order to avoid herniation of other viscera. The m

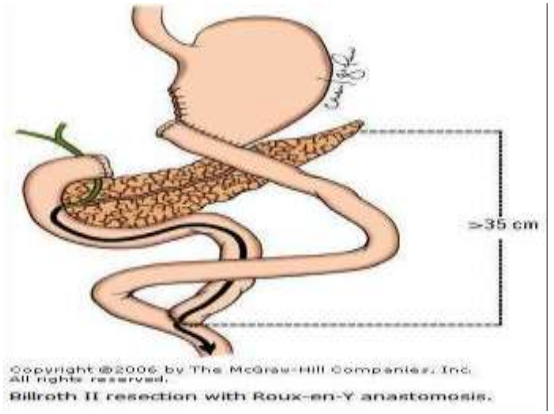












Billroth II resection with Roux-en-Y anastomosis.