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PBL-VII

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Peptic Ulcer Disease

PUD: definition

- Break in the gastrointestinal mucosa exposed to gastric acid and pepsin more than 5 mm in diameter.
- Erosions (*superficial to the muscularis mucosa, thus no scarring*) or ulcer (*penetrates the muscularis mucosa and can result in scarring*)

Etiology of Erosions/Ulcer

	Duodenal	Gastric
***H. pylori* infection**	90%	60%
NSAIDs	7%	35%
Physiologic stress-induced	<3%	<5%
Zollinger-Ellison (ZE) syndrome	<1%	<1%

PUD: Clinical Features

- dyspepsia is the most common presenting symptom; however, only 20% of patients with dyspepsia have ulcers
- may present with complications
  - bleeding 10% (severe if from gastroduodenal artery);
  - perforation 2% (usually anterior ulcers)
  - gastric outlet obstruction 2%
  - penetration (posterior) 2%; may also cause pancreatitis

PUD: Clinical Features

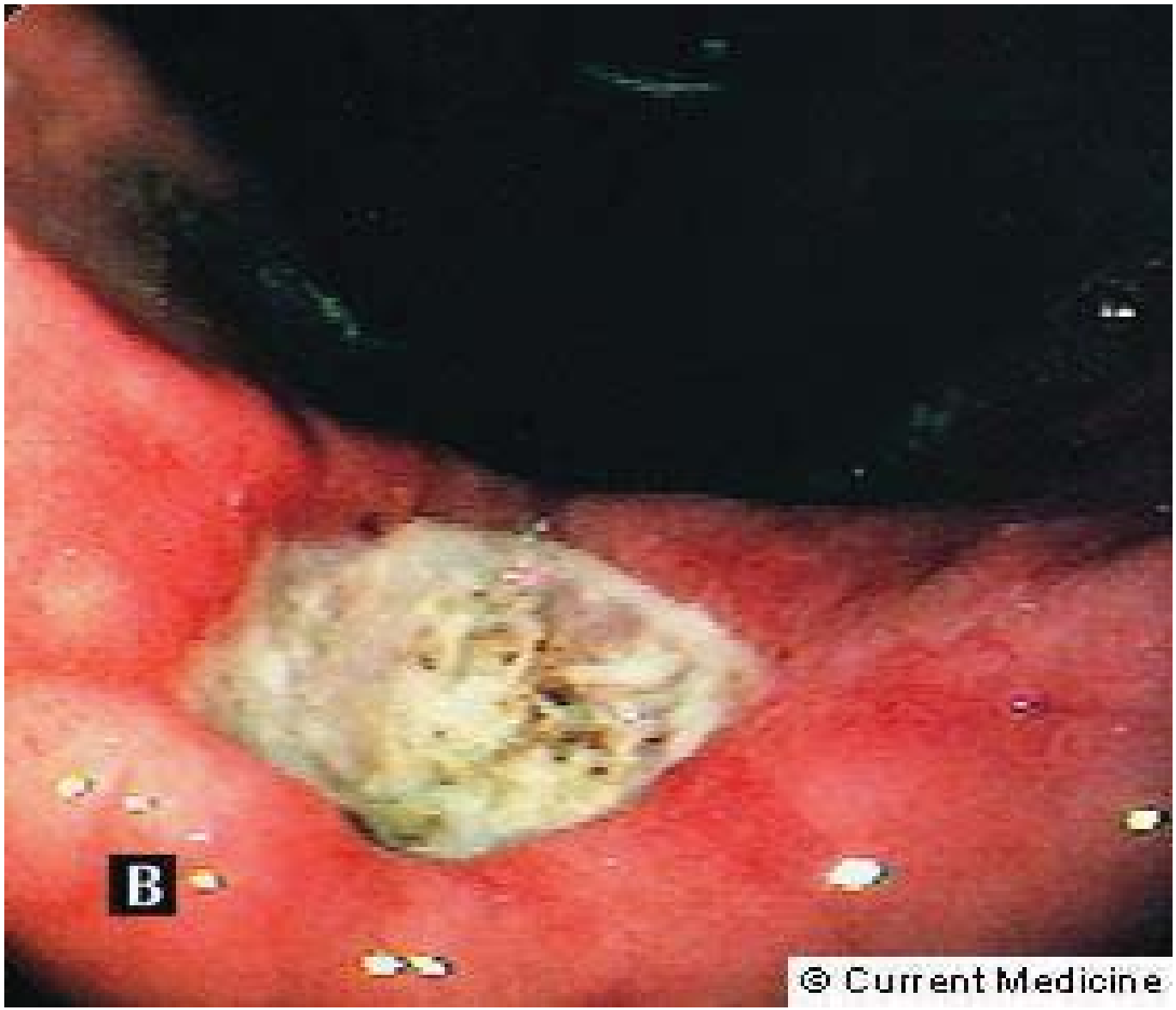
- duodenal ulcers present with 6 classical features:
  - epigastric pain; but may localize to tip of xyphoid
  - burning
  - develops 1-3 hours after meals
  - relieved by eating and antacids
  - interrupts sleep
  - periodicity (tends to occur in clusters over weeks with subsequent periods of remission)

- Gastric ulcer edges must always be biopsied, duodenal ulcers are rarely malignant.

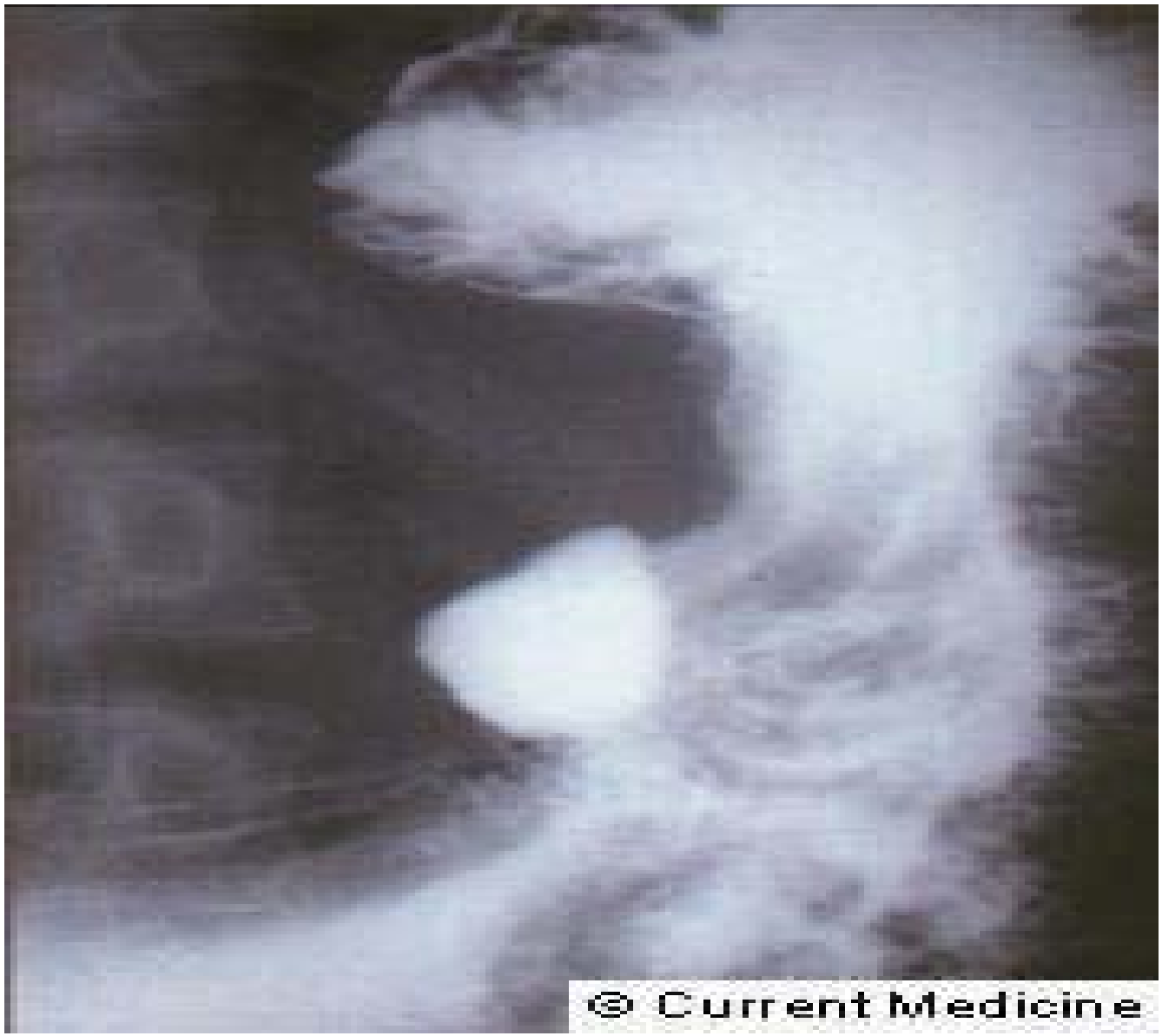
Investigations

- Endoscopy (**most accurate**)
- Radiology (*no longer used*)
- Upper GI series
- *H. pylori* tests
- Fasting serum gastrin measurement if Zollinger-Ellison (ZE) syndrome suspected

Endoscopy in PUD: GU



Radiology in PUD



Diagnosis of *H. pylori*

Test	Sensitivity	Specificity	Comments
Non-invasive Tests			
Urea breath test	90-100%	89-100%	Affected by PPI therapy (false negatives)
Serology	88-99%	89-95%	Can remains positive after treatment
Invasive Tests (require endoscopy)			
Histology	93-99%	95-99%	Gold standard; affected by PPI therapy (false negatives)
Rapid urease test (on biopsy)	89-98%	93-100%	Rapid
Microbiology culture	98%	95-100%	Research only

Management

- Specific management depends on etiology; (*i.e. H. pylori, Stress-Induced, NSAID induced*)
- eradicate *H. pylori* if present, chief advantage is to lower ulcer recurrence rate
- stop NSAIDs if possible
- PPI inhibits parietal cell H+ /K+-ATPase pump which secretes acid heals most ulcers, even if NSAIDs are continued
- discontinue tobacco
- no diet modifications required but some people have fewer symptoms if they avoid caffeine, alcohol, and spices

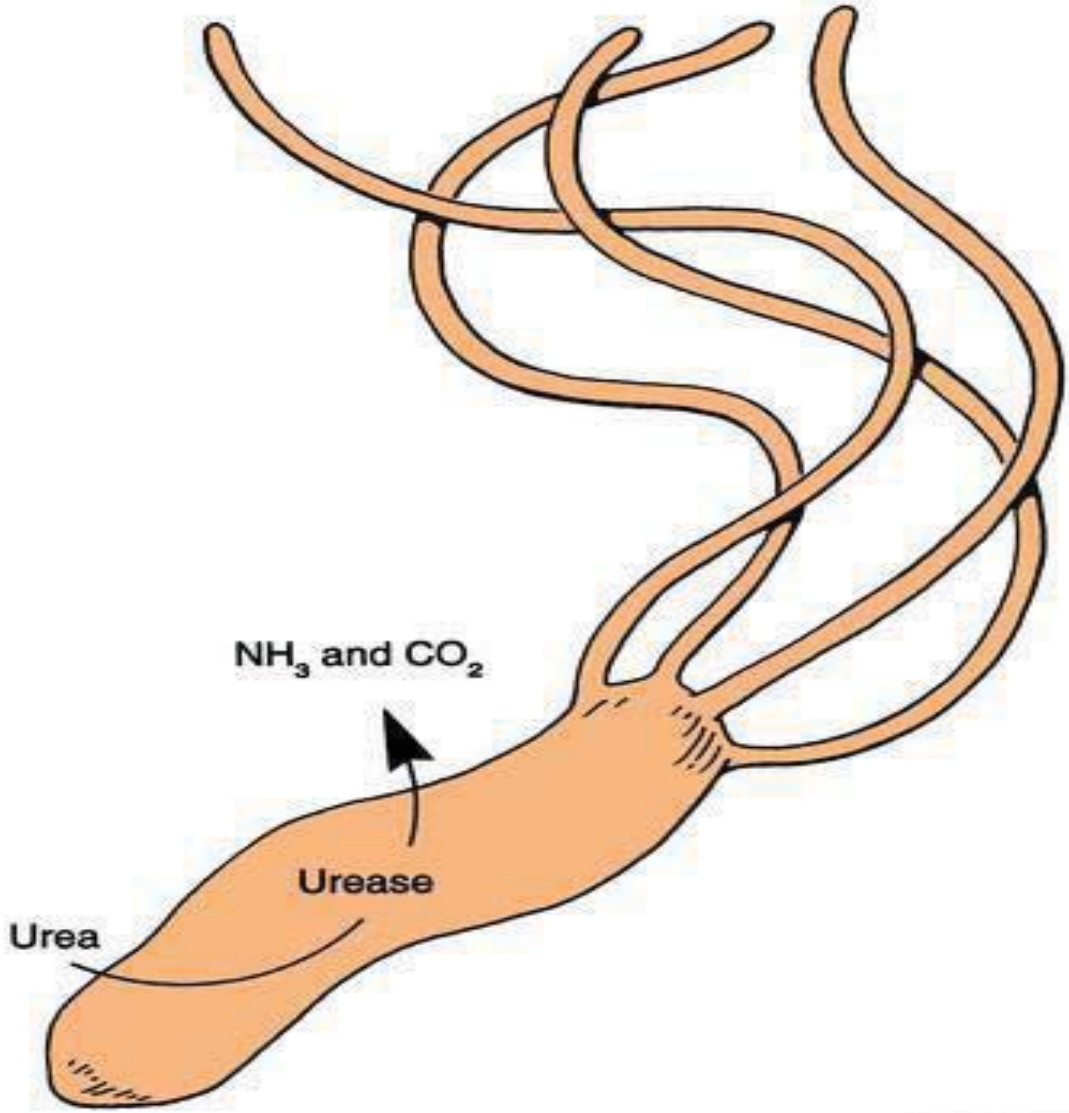
H. pylori Eradication

- *H. pylori* eradication (*Canadian Consensus Guidelines*, September 2004)
  - eradication controversial if neither peptic ulcer nor cancer, but most authorities now recommend eradication to lower risk of gastric malignancy
  - 1st line triple therapy
    - (PPI + clarithromycin 500 mg + amoxicillin 1000 mg bid) x 7-14 days (Hp-Pac™); 90% success rate
    - PPI + clarithromycin + metronidazole 500 mg x 7-14 days
    - ranitidine, bismoth-citrate + clarithromycin + amoxicillin
  - 2nd line quadruple therapy - use if resistant to clarithromycin or metonidazole
    - PPI + BMT (bismuth + metronidazole + tetracycline) x 7 days
    - lansoprazole 500 mg bid + amoxicillin 1 g bid + PPI bid
- 5-15% of cases are resistant to all known therapies

Role of H.pylori in GI diseases

- Healthy subjects 20-50%
- Chronic active gastritis 100%
- Duodenal ulcer >90%
- Gastric ulcer 50 - 80%
- Gastric adenocarcinoma 90%
- Gastric lymphoma 85%

Helicobacter pylori



Research Corner

THE LIBYAN JOURNAL OF
Infectious Diseases
The Official Periodical of the Libyan National Center for Infectious Diseases Prevention and Control
Vol. 1 No. 2 July - 2007

Brief Report

Prevalence of *Helicobacter pylori* infection in patients with dyspepsia referred for upper gastrointestinal endoscopy to Ibn-Sina clinic, Benghazi

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Departments of [1]Medicine, and [2]Surgery, 7th October Hospital, Faculty of Medicine, Garyounis University, Benghazi, Libya.

ABSTRACT

Background: *Helicobacter pylori* (*H. pylori*) has acquired great importance during the last two decades, after being recognized as an important pathogen that infects a great portion of the human population. This microorganism is recognized as the main causal agent of chronic gastritis and duodenal ulcers, and it is associated with the subsequent development of gastric carcinoma.

Objectives and aims: The aim of the present study was to determine the prevalence of *H. pylori* among patients with dyspepsia referred to Ibn-sina polyclinic for upper gastrointestinal tract (GIT) endoscopy.

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Prevalence of *Helicobacter pylori* infection in patients with dyspepsia referred for upper gastrointestinal endoscopy to Ibn-Sina clinic, Benghazi

Conclusion: *H. pylori* infection is common in patients with dyspeptic symptoms referred to Ibn-Sina clinic in Benghazi for upper gastrointestinal endoscopy with high prevalence of gastritis, reflux esophagitis, duodenal ulcer, duodenitis and hiatus hernia.

Key words:
Helicobacter pylori, chronic dyspepsia, peptic ulcer disease.

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Brief Report

Prevalence of *Helicobacter pylori* infection in patients with dyspepsia in Tripoli Central Hospital, Tripoli, Libya

Ali Tumi, Salah Elfegy, Masood El-Magadmi, Osama Elsgaer, Mohamed Eshneen, Mohamed Ahmed.
Department of Medicine, Tripoli Central Hospital, Faculty of Medicine, Alfateh University, Tripoli, Libya

ABSTRACT

Aim: The aim of the present study was to determine the prevalence of *Helicobacter pylori* (*H. pylori*) infection by Rapid Urease Test (RUT) in patients presented with upper gastro-intestinal tract (GIT) symptoms to the Medical Department at Tripoli Central Hospital in hom upper (GIT) endoscopy was performed.

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Brief Report

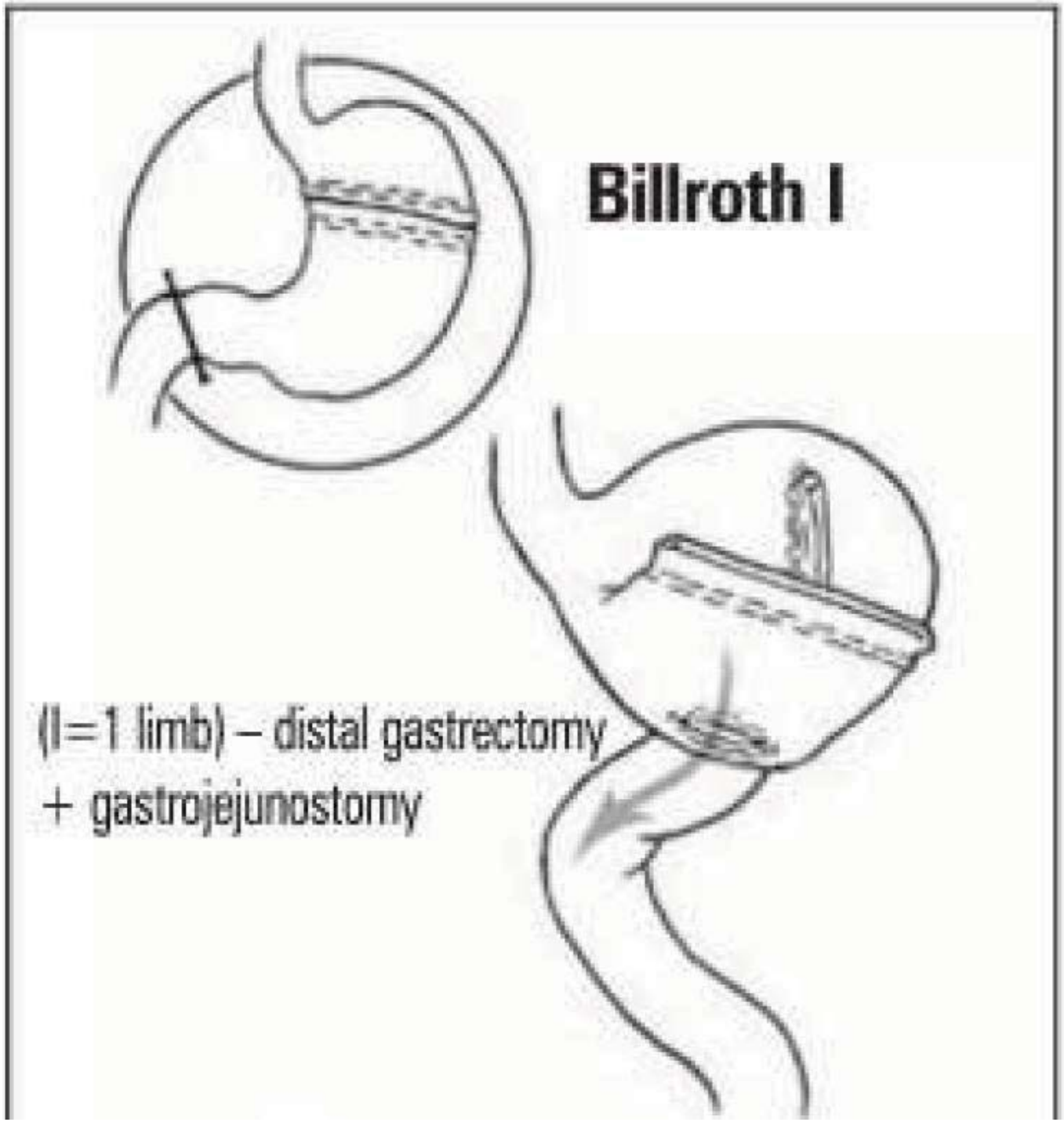
Prevalence of *Helicobacter pylori* infection in patients with dyspepsia in Tripoli Central Hospital, Tripoli, Libya

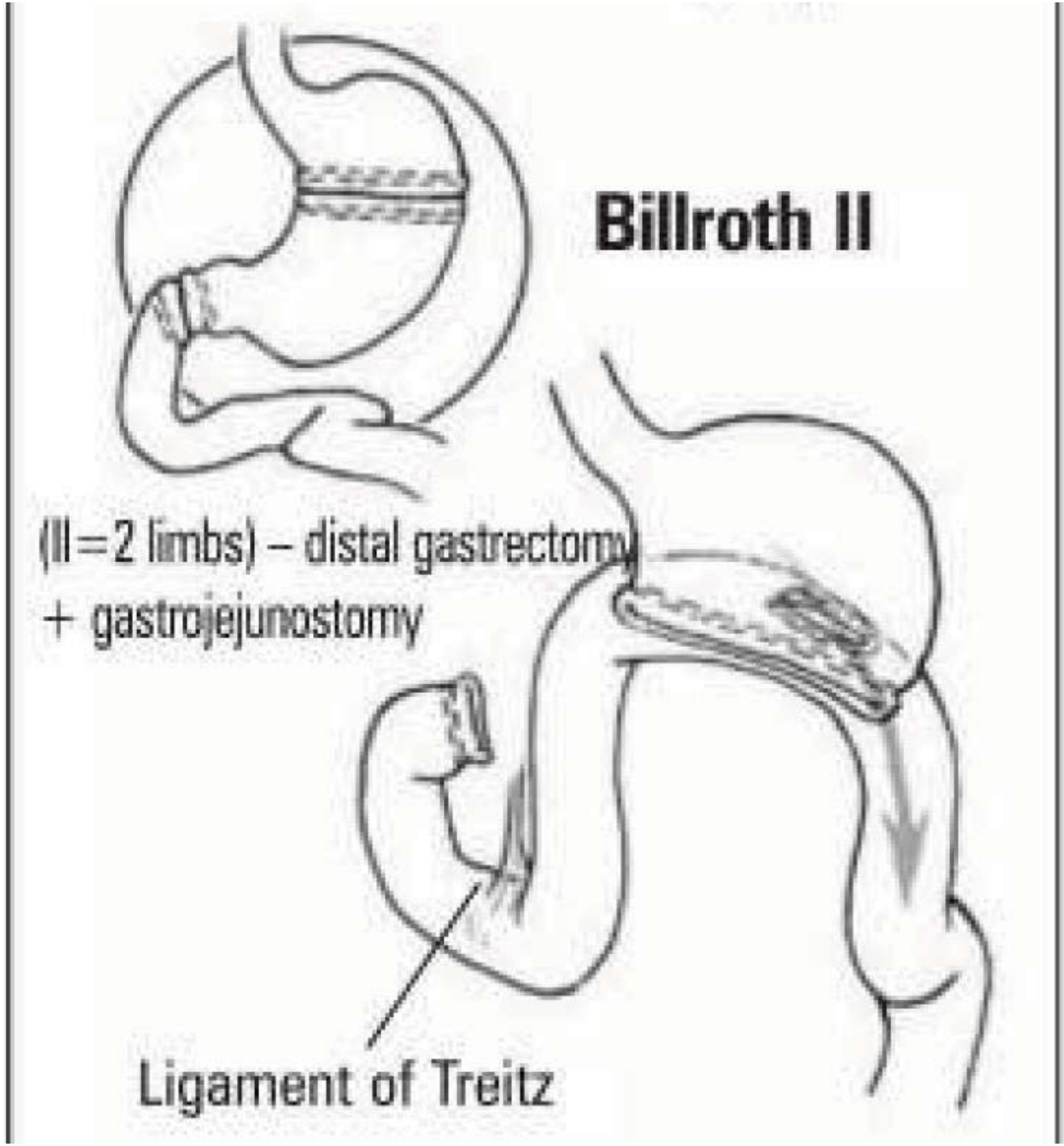
Conclusion: DU and gastritis were the most common endoscopic findings in the studied population. The prevalence of *H pylori* infection in our patients with DU is similar to that reported in studies from other parts of the world.

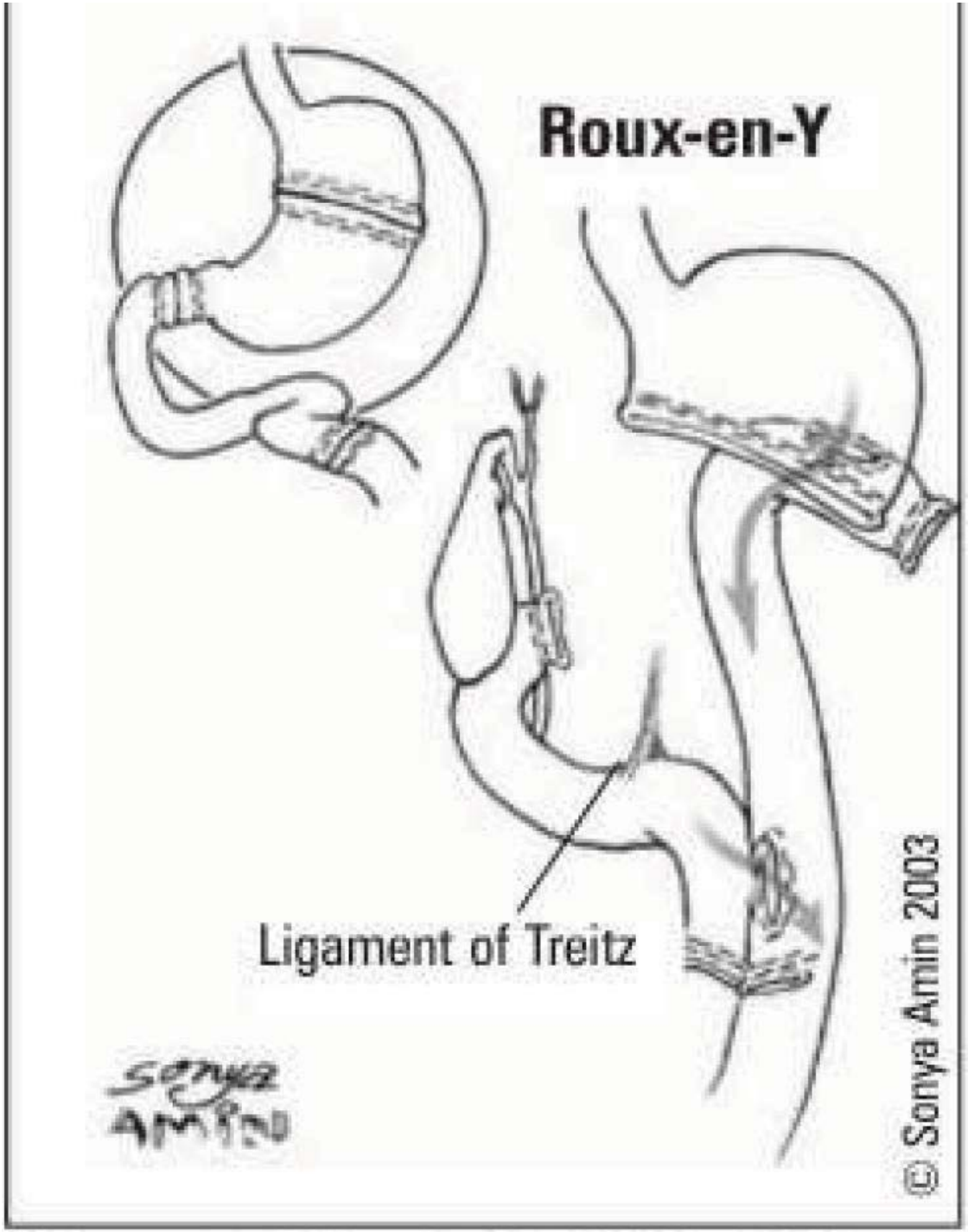
Key words:
Helicobacter pylori, peptic ulcer disease, duodenal ulcer, gastritis, rapid urease test.

Surgical Management

- Increasingly rare due to improved medical treatment.
- Distal gastrectomy
- Vagotomy and pyloroplasty in hyper-secretion only.


Billroth I
(I=1 limb) – distal gastrectomy
+ gastrojejunostomy


Billroth II
(II=2 limbs) – distal gastrectomy
+ gastrojejunostomy
Ligament of Treitz


Roux-en-Y
Ligament of Treitz
Sonya Amin
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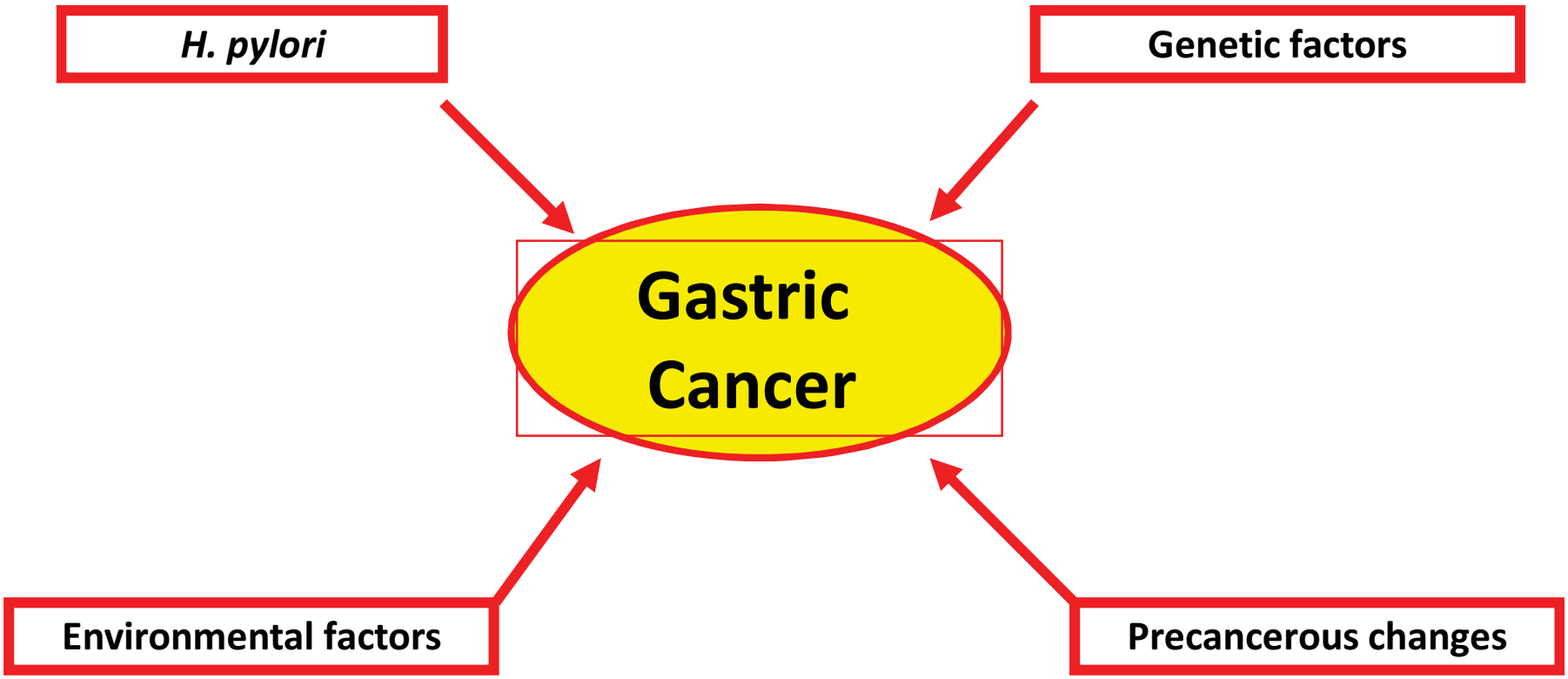
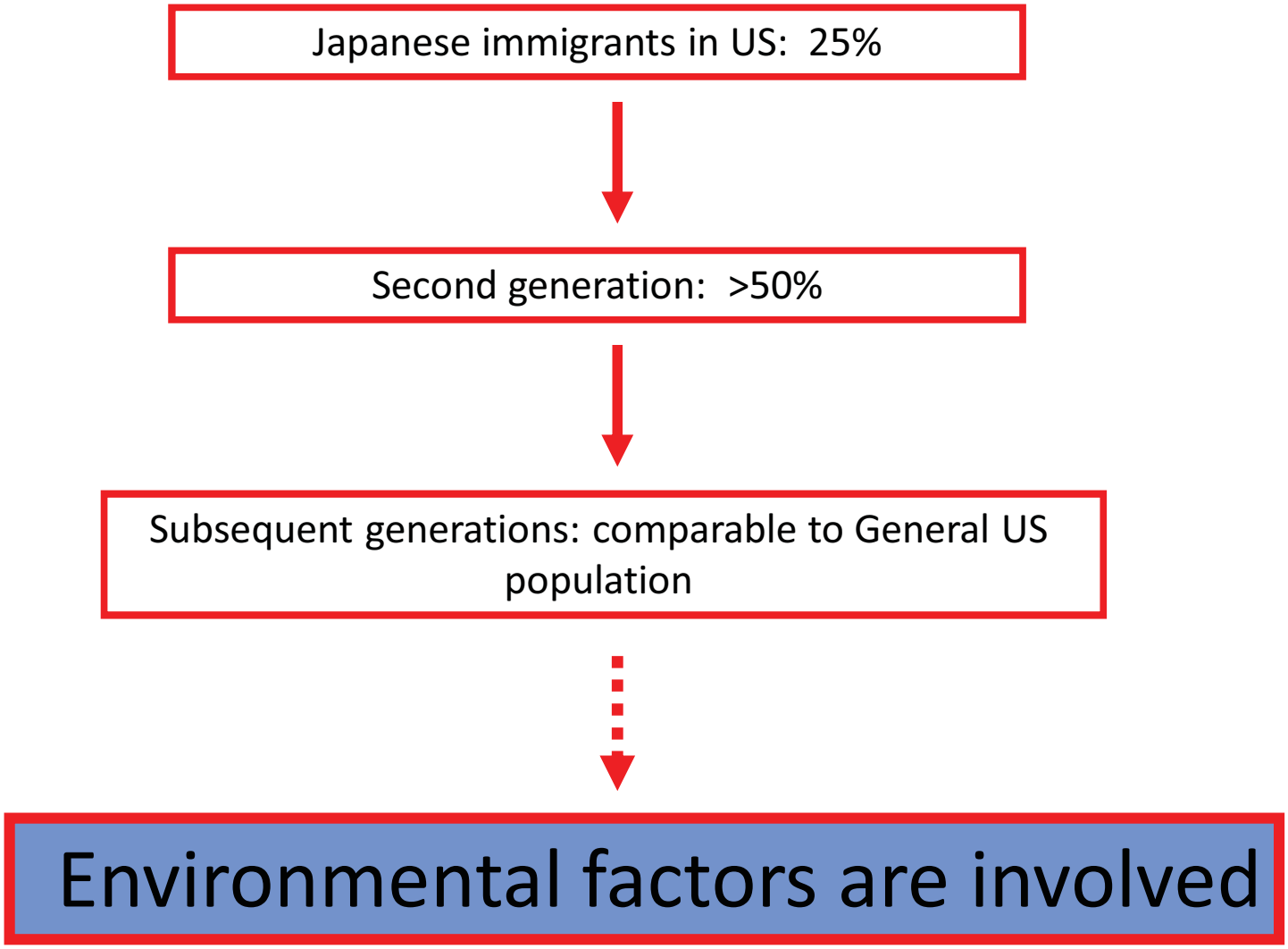
Gastric Carcinoma

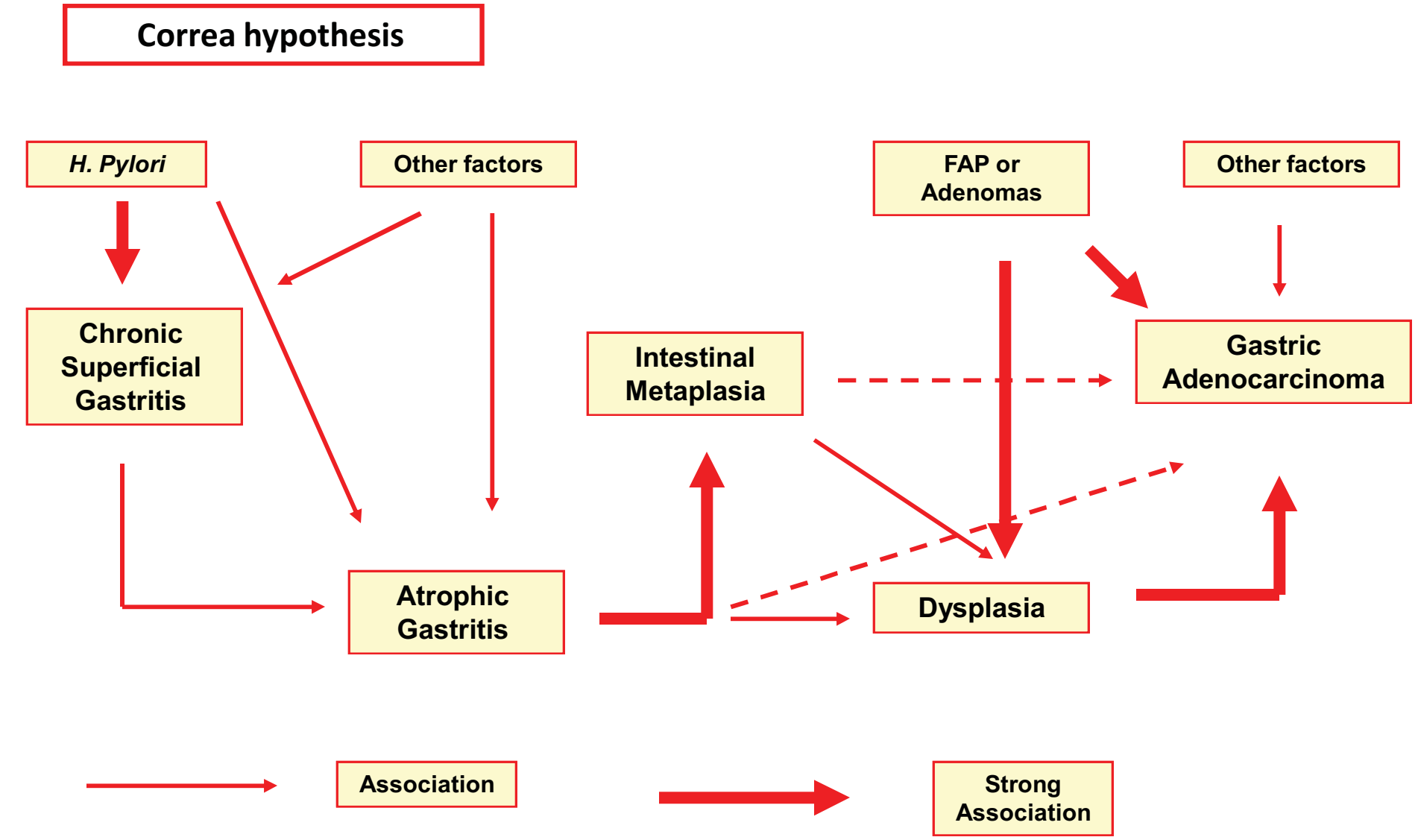
Etiological Factors of Gastric Cancer



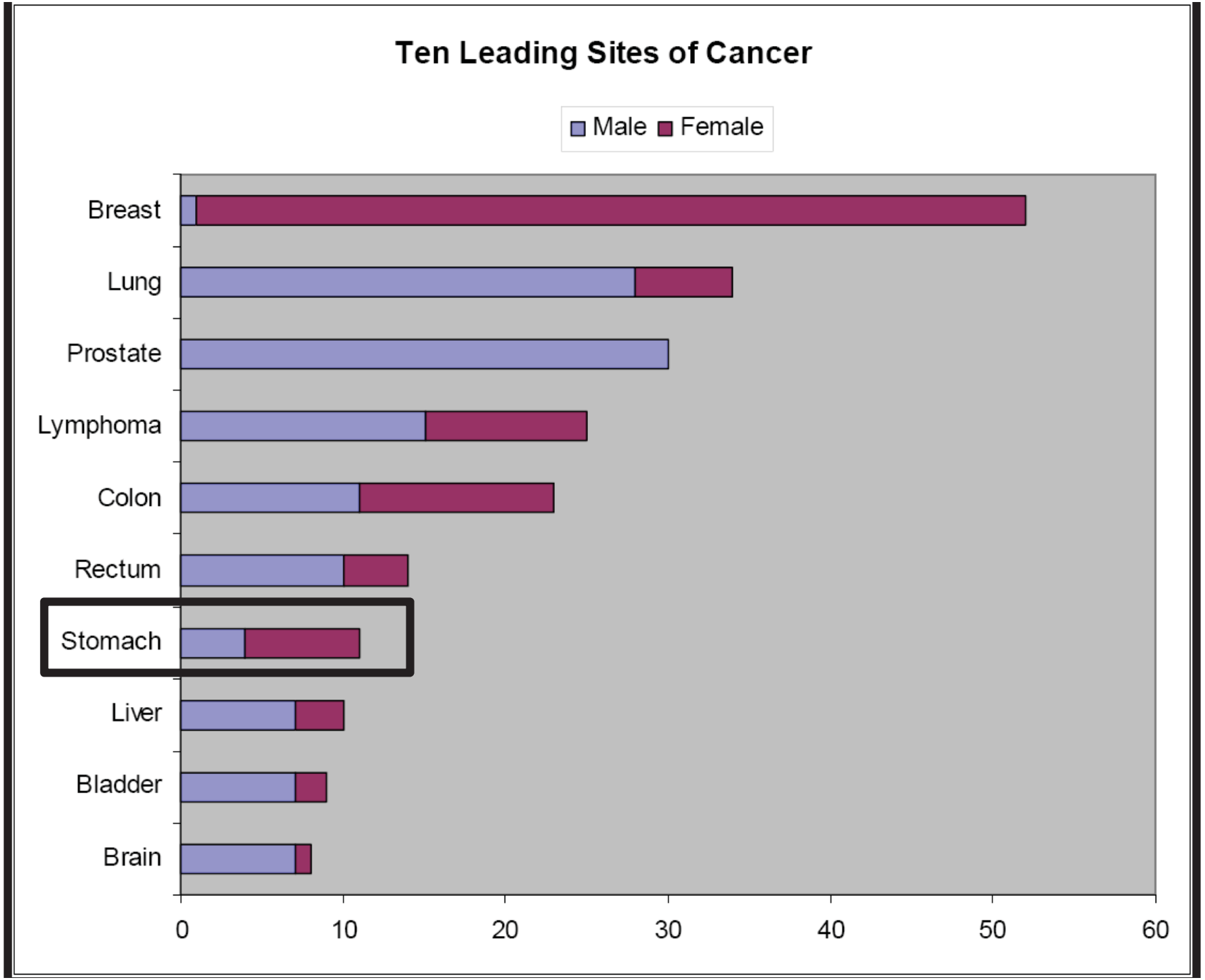
Environmental factors

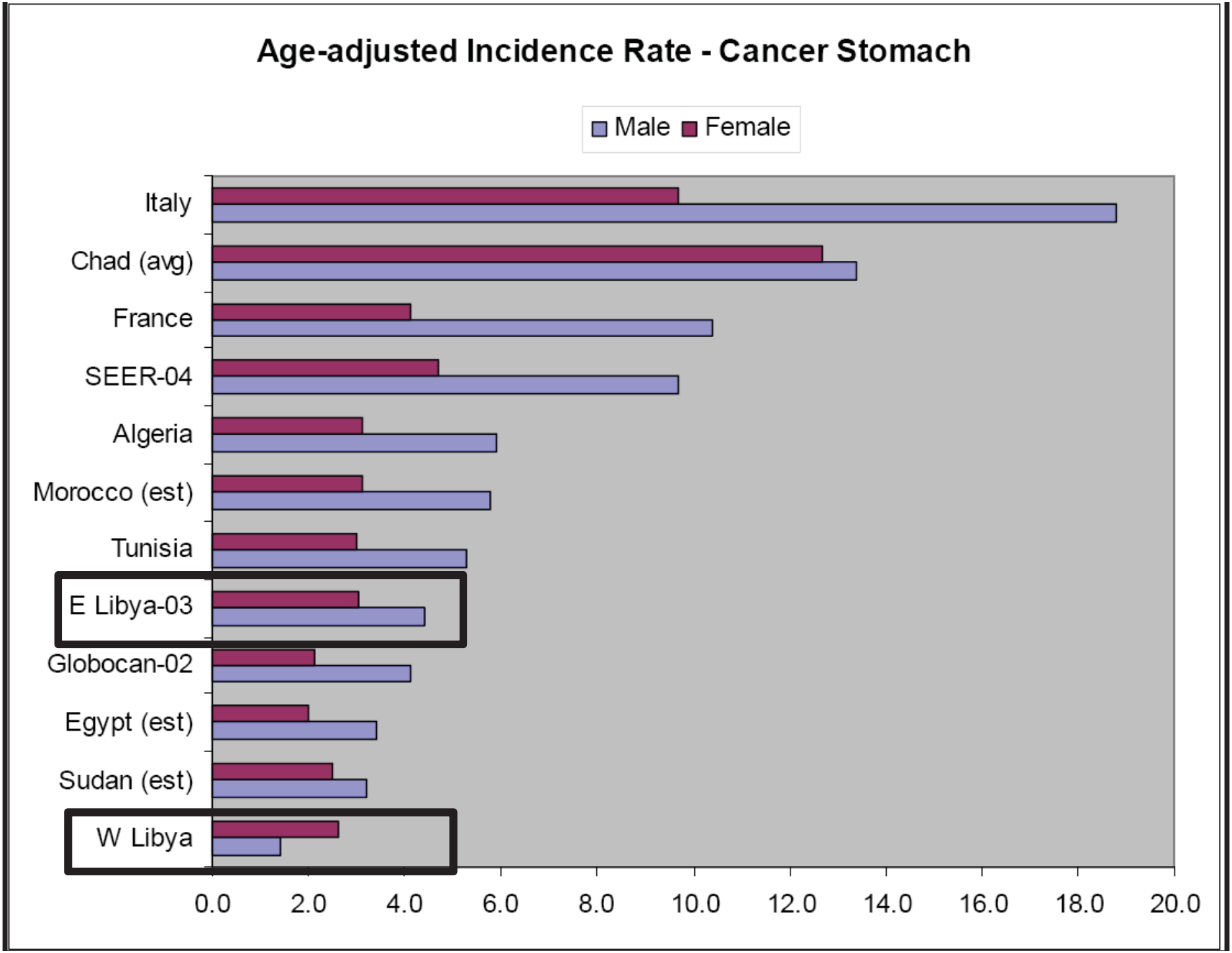


Postulated sequence of histologic events in the progression to gastric adenocarcinoma and potential contributory factors



Epidemiology

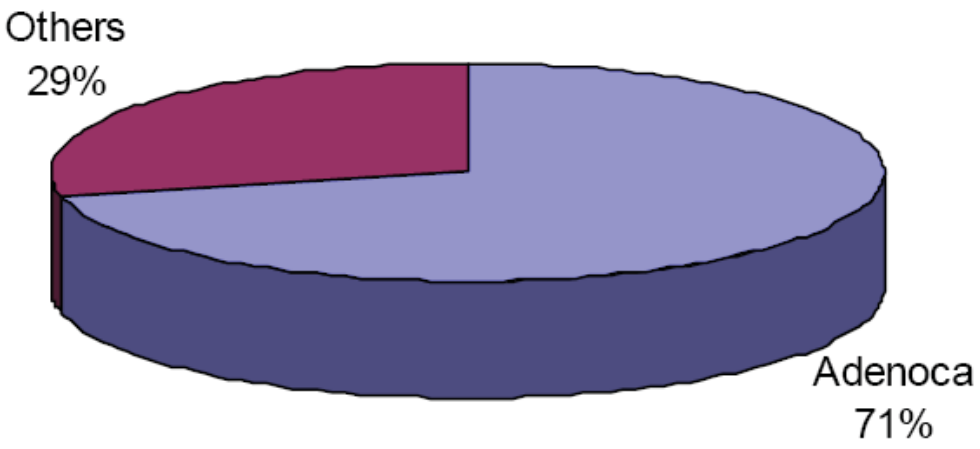

Ten Leading Sites of Cancer
Male
Female
Breast
Lung
Prostate
Lymphoma
Colon
Rectum
Stomach
Liver
Bladder
Brain
0
10
20
30
40
50
60


Age-adjusted Incidence Rate - Cancer Stomach
Male
Female
Italy
Chad (avg)
France
SEER-04
Algeria
Morocco (est)
Tunisia
E Libya-03
Globocan-02
Egypt (est)
Sudan (est)
W Libya
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0

Research Corner

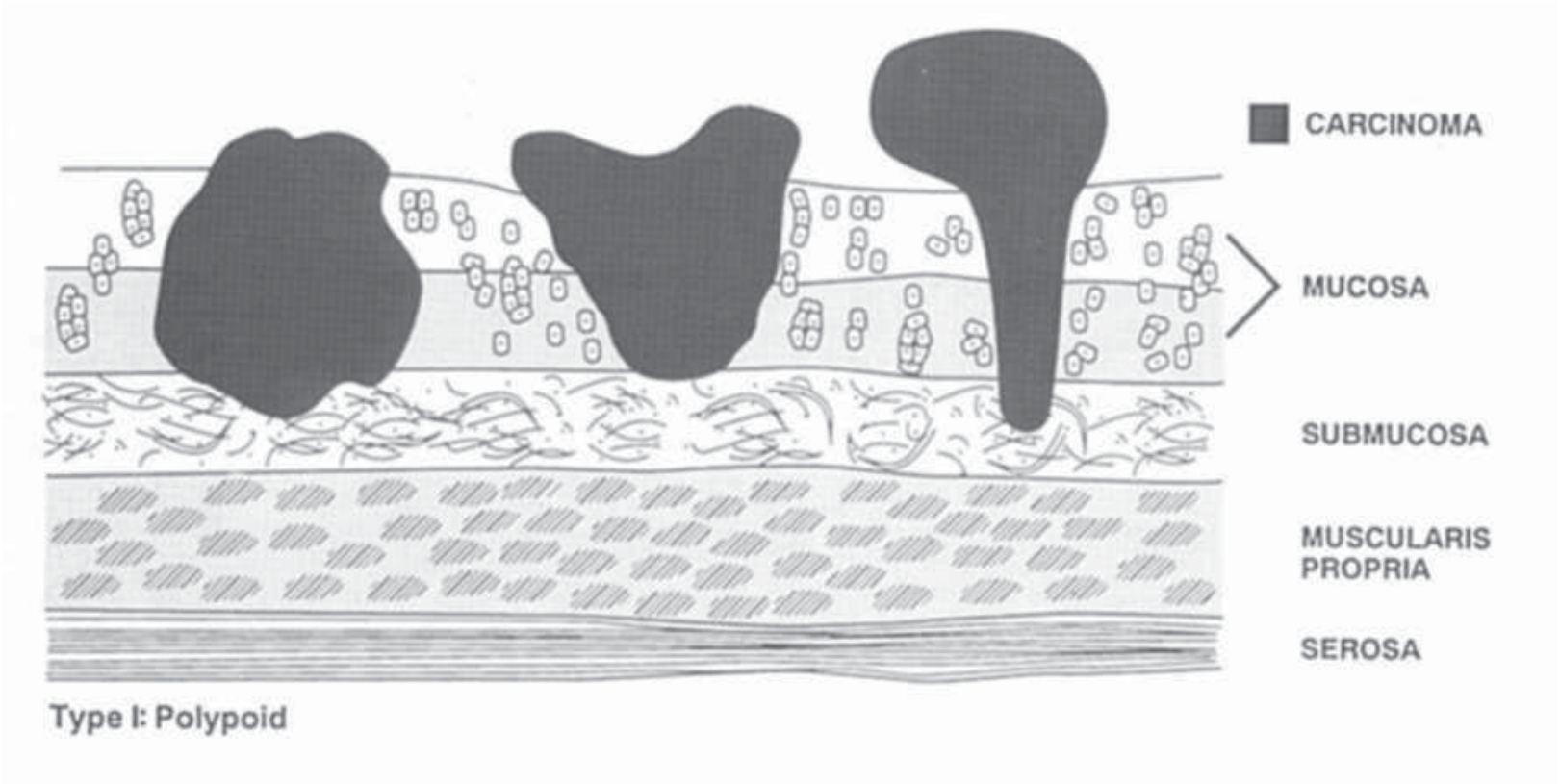
	Male	Female
SEER-04	9.7	4.7
W Libya	**1.4**	**2.6**
E Libya-03	4.4	3.0
Globocan-02	4.1	2.1
Algeria	5.9	3.1
Tunisia	5.3	3.0
Egypt (est)	3.4	2.0
Morocco (est)	5.8	3.1
Sudan (est)	3.2	2.5
Chad (avg)	13.4	12.7
Italy	18.8	9.7
France	10.4	4.1

Histopathological Type - Cancer Stomach



Morphology

Morphology---early stage



Morphology---early stage