Reflux esophagitis

MOTILITY disorder

Definition:

- Complication of gastroesophageal disease (GERD = malfunction of LES)
- Oesophagus inflammation due to stomach acid reflux

Mechanism:

- Abnormal lower esophageal sphincter **(LES)** relaxation → allowing the ascent of stomach acid into the esophagus damaging the lining → inflammation

Pathophysiology:

Causes of excessive / prolonged LES relaxation

- **1°:** Hiatal hernia (✳), foods (coffee, alcohol, chocolate, mint, citrus), drugs (Ca channel blockers, β-agonist, anti-cholinergics)
- **2°:** scleroderma (autoimmune disorder), delayed gastric emptying

Sx & Ssx:

- Barret's esophagus: pre-cancerous lesion
- Bright red hematemesis: blood in vomit
- Mechanical dysphagia while eating solid foods (swallowing)
- HEARTBURN: epigastric / retrosternal burning sensation
- Acid regurgitation (water brash), can lead to → chronic cough (especially @ night), asthma, hoarse voice

✳ **Hiatal hernia**

- **Type 1:** sliding h.h. stomach intermittently slides up through the diaphragm (hiatus)
- **Type 2:** paraoesophagheal h.h. (< common) stomach bulges through hiatus but lies along the esophagus
- **Mechanism:** muscle weakness or ↑ abdominal pressure

Acid peptic disease

SECRETION disorder

Definition:

- Formation of open ulcers in the lining of the stomach, duodenum (upper small intestine), or esophagus
- 1° caused by imbalance between factors that protect the mucosal lining & those that promote its erosion

Pathophysiology:

- **Helicobacter pylori infection:** bacterium that colonises in the stomach & weakens the protective mechanisms of the gastric mucosa → > vulnerable to acid & other harmful substances
- **Acid production:** excessive production (1° hydrochloric acid), contributes to development of peptic ulcers
- **Impaired mucosal defence mechanisms:** such as reduced mucus production, diminished blood flow to mucosa, or inadequate bicarbonate secretion, can compromise mucosal defense
- **NSAIDs:** such as aspirin or ibuprofen, can directly irritate gastric mucosa & inhibit the production of protective substances like prostaglandins

Mechanism: imbalance between aggressive factors (acid & pepsin) & protective mechanisms leads to erosion & damage to the mucosal lining, eventually → formation of ulcers

- **Acid:** excessive production / secretion of stomach acid ↑ acidity of gastric contents, can damage mucosal lining
- **Pepsin:** (enzyme that helps breakdown proteins in stomach), when excessive presence, can contribute to mucosal injury
- **Mucus secretion:** reduced mucus production can make the mucosa more susceptible to injury
- **Bicarbonate secretion:** (neutralises stomach acid), insufficient secretion can disrupt mucosal defence mechanisms

Acid peptic disease (cont)

Sx & Ssx:

- Epigastric pain: in upper abdomen between meals or during the night
- Heartburn
- Nausea & vomiting: especially if ulcers present in stomach
- Loss of appetite or weight loss
- GI bleeding: in severe cases

Duodenal cancer is a complication of acid peptic disease

Acute & chronic gastritis

Complication of **acid peptic disease**

Definition:

- Sudden onset inflammation in the stomach lining
- Tends affect a wider area of mucosa

	Acute gastritis	*Chronic gastritis*
Pathophysiology & mechanisms:	- **Irritants & toxins:** consumption can directly damage the gastric mucosa, leading to acute inflammation - **Helicobacter pylori:** infection - **Immune response:** immune system triggers an inflammatory response in gastric mucosa, leading to release of inflammatory mediators (lymphocytes & plasma cells), this inflammation can cause damage to mucosal lining	- **Heliobacter pylori:** leads to chronic inflammation of the gastric mucosa - **Autoimmune response:** mistakenly attacks the stomach lining cells, causing chronic inflammation - **Other factors:** prolonged use of NSAIDs, alcohol, bile reflux & certain medical conditions such as Crohn's disease or HIV infection
Sx & Ssx:	- Epigastric pain: typically burning or gnawing - Nausea & vomiting - Loss of appetite - Bloating or feeling of fullness - Hematemesis: in severe cases	- Dyspepsia: abdominal discomfort after eating (often w/ early satiety & bloating) - Loss of appetite or weight loss - Nausea or vomiting - Bloating or fullness - Anemia: vitamin B12 deficiency

Chronic gastritis aka 'atrophic gastritis' is a pre-cancerous condition

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