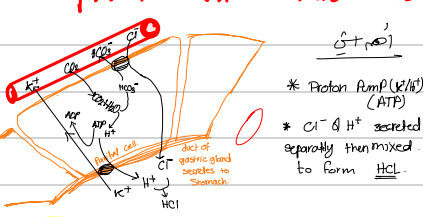


main topics  
 \* Physiology

- \* Parietal Cell secrete 2 Liter/day of acid
- \* optimal pH of Pepsin is (1.8 → 3.5)

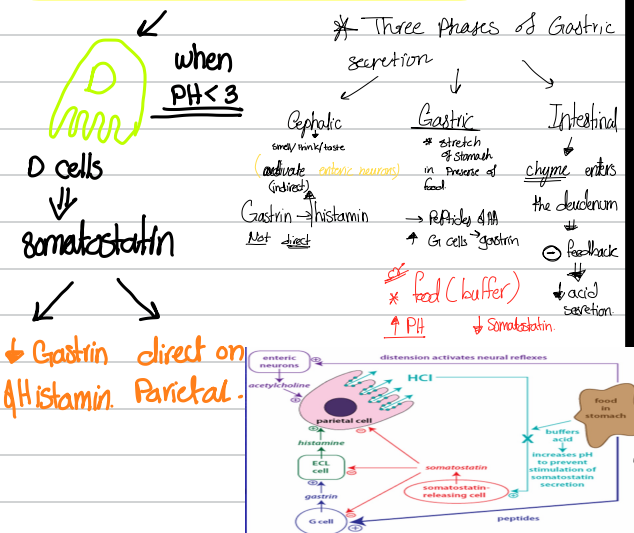


$\sigma^+$   
 \* Proton Pump (K+/H+) (ATP)  
 \* Cl- & H+ secreted separately then mixed to form HCl.

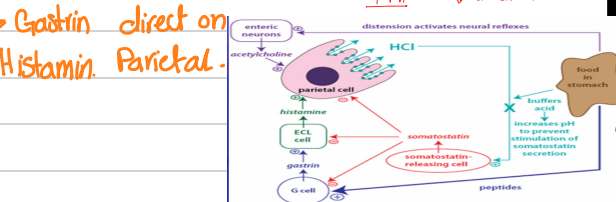
\* Stimulation of acid secretion



\* Inhibition of secretion:-

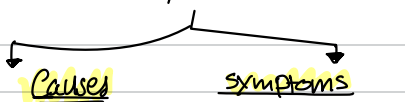


\* Three Phases of Gastric secretion  
 Cephalic (sight/taste) → Gastric (stretch) → Intestinal (chyme enters duodenum)  
 Somatostatin → ↑ pH (buffer) ↓ Somatostatin



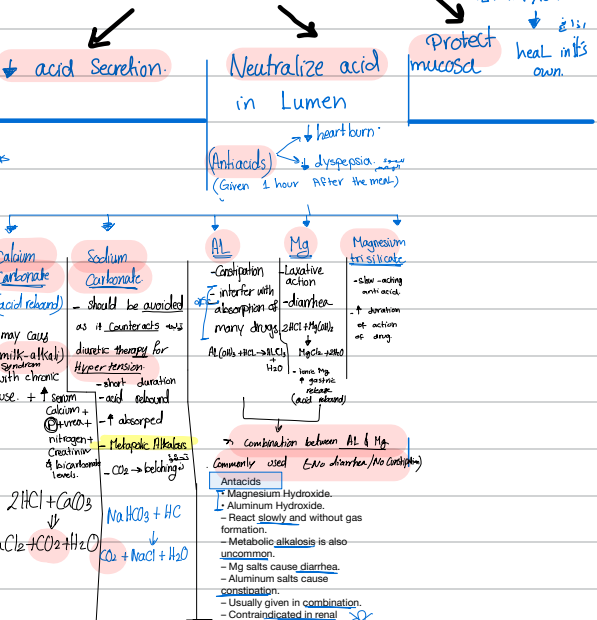
secretion (Physio) → Peptic ulcer → Tm. \* Peptic ulcer

\* defect in lining of stomach or duodenum

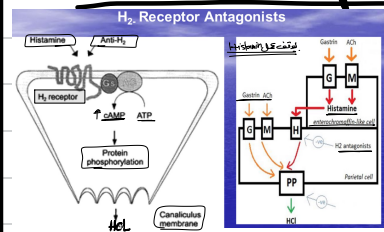


- Causes
- H. Pylori
  - Aspirin & NSAIDs
  - Smoking, Stress
  - Alcohol
  - Gastrinomas
  - Zollinger Ellison syndrom. (ZES) (gastrin-secreting tumor ↑ G cell ↓ diarrhea)
- Symptoms
- burning Pain between meals or at night.
  - bloating, nausea, vomiting
  - severe → ↓ weight, vomiting, blood, Dark stool (Bleeding)
- Complications
- Perforation
  - GI bleeding (life threatening if large)
  - Cancer
  - H. Pylori

\* Treatment of PUD:-



\* H2 - Receptor Antagonist



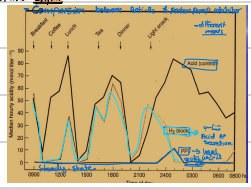
selective Competitive inhibitors of Parietal Cell H2 Receptor

- ↓ Basal & meal stimulated acid secretion in a dose dependent manner.
- ↓ volume of secretion & Pepsin Concentration.

- \* Anti-H2 → Most Common Prescribed drugs in world.
- Cimetidine, prototype, many problems.
  - Ranitidine.
  - Famotidine.
  - 50% first-pass metabolism bioavailability
  - Nizatidine
  - has little first-pass metabolism

\* Anti-H2 effects:

- ↓ secretion stimulated by H2, dopamine, Histamine
- ↓ 90% of total 24hr secretion
- ↓ nocturnal acid coverage
- ↓ day time meal stimulated acidity
- Duration of Action 12hrs



\* clinical uses:-

- Gastroesophageal Reflux
- Non ulcer Dyspepsia
- Stress Related Gastritis
- Peptic ulcer D (Replaced by PPI)
- Healing Rate greater than 80-90% after 6-8 wks.
- Not effective in H. Pylori
- Not effective if NSAID is continued

Adverse effects

