

GIT PHARMACOLOGY_SELF-STUDY QUESTIONS

1. TRUE or FALSE. If you think the statement is FALSE, explain why.

- (a) Gastric acid secretion is controlled by gastrin **T**
- (b) Dicyclomine has anti-spasmodic action in the GIT by virtue of antagonizing the action of acetylcholine on muscarinic M3 receptors on smooth muscle
- (c) Aluminium hydroxide is an effective antacid but continued use of this agent can cause constipation **F**
- (d) Magnesium hydroxide is an effective antacid but can cause constipation **diarr.**
- (e) The analogue of PGE-2, misoprostol inhibits histamine-induced gastric acid secretion and stimulates secretion of mucus and bicarbonate **T**
- (f) Ondansetron has an anti-emetic effect by action on 5-HT₃ receptors **T**
- (g) Hyoscine is used for the treatment of motion sickness once it starts but is less useful in preventing it **F**.
- (h) Loperamide is an anti-motility agent used to treat diarrhea **T**
- (i) The chemoreceptor trigger zone can be stimulated by agents which do not cross into the CSF since it lies outside the blood-brain barrier **T**
- (j) Cimetidine has potent inhibitory effects on gastric acid secretion by stimulating histamine H₂ receptors on gastric parietal cells **F**
- (k) Pirenzepine, a muscarinic receptor antagonist, is not useful for reducing gastric acid secretion because it has marked unwanted effects on the heart (tachycardia and CNS stimulation) **?**

2. How is acid secretion from parietal cells controlled? What intracellular transduction mechanisms are involved?

*Vagal stimulation - G cells - Parietal.
↳ Entero ↑*

3. Which is currently the main group of drugs used to reduce gastric acid secretion? Give examples. What is the mechanism of action?

antacids famotidine ranitidine.

4. Name two drugs that are cytoprotective, acting by coating peptic ulcers. Which of the two also has another action which is useful in peptic ulcer therapy?

*Sucralfate
Bismuth subsalicylate*

5. Which neurotransmitters are involved in the reflex pathways controlling vomiting? Which receptors do they act on?

6. What anti-emetic drugs are useful for motion sickness?

Scopolamine.

7. What anti-emetic drugs would be useful in vomiting due to the cancer drug cisplatin?

Ondansetron

8. What drugs could be used to control morning sickness during pregnancy?

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9. Which laxatives might be considered to be agents of choice in preventing constipation?
Which ones are for prompt purgation? \Rightarrow Senna, Castor oil, Bisacodyl
Stimulant laxatives.
10. What drug would you use for symptomatic treatment of constipation in a patient with painful rectal haemorrhoids?
11. If drugs are necessary to treat traveller's diarrhea, what agents could be used?
Anticholinergic drug like loperamide.
12. What is the role of antacids in the management of peptic ulcer disease?
Prevent continued effect of Acid.
13. What is the site of anti-emetic action of ondansetron? $5HT_3$ receptor.
14. Explain why many antacid preparations on the market contain a combination of magnesium hydroxide and aluminum hydroxide \Rightarrow Work in tandem AlH = buffer
Mg hydroxide - const.
15. Explain the laxative mechanism of action of methyl-cellulose
Bulk forming laxative: draws water into fecal matter
16. Explain the rationale for the use of lactulose in portal-systemic encephalopathy
acidify gut pH by breaking gut bacteria degrade it to lact. & acetate acid which promotes Nitrosecretion.
17. Describe the effects of aluminum hydroxide on serum ions
18. Outline the use of histamine H₂ antagonists in stress-induced peptic ulcer
Anti Acid Secretion via G-Pro.
19. Explain the molecular mechanism of the antidiarrheal action of loperamide
20. Explain the mechanism of action of antacids: neutralize Acid
21. Explain why the dose of histamine H₂ antagonists must be reduced in patients with renal insufficiency
Histamine is needed for dilation of renal arterioles
22. Outline the therapeutic uses of bismuth subsalicylate
membrane preventing further damage & promo healing
23. List the receptors that can be blocked by metoclopramide
D₂ antagonist
24. Outline the therapeutic uses of proton pump inhibitors
Anti Acid drug
25. Describe the adverse effects of metoclopramide
26. Describe the antiemetic activity of dronabinol
27. Describe the effects of cimetidine-theophylline interaction

28. Explain the pharmacological basis for the triple-drug therapy regimen in the therapy of Helicobacter pylori-associated ulcers

29. Which laxatives are contraindicated in patients with renal insufficiency?

30. Explain the mechanism of action of sucralfate *Coating Mucosa*

31. Explain the basis for the use of metoclopramide in GERD

32. Describe the therapeutic uses of loperamide

33. Explain the molecular mechanism of action for the anti-emetic actions of aprepitant

34. Explain the mechanism of action of saline laxatives

↑ the secretion to lumen.

35. Describe the best treatment in case of laxative-induced diarrhea

36. Which is the most appropriate laxative for use during pregnancy? *lucusafer : stool softener.*

37. What are the therapeutic uses of oral magnesium salts?

ANTI-EMETICS

1. What is the anti-emetic regimen of choice to prevent acute nausea and vomiting for highly emetogenic chemotherapy?
2. Compare the use of oral versus intravenous anti-emetic agents

PEPTIC ULCER DISEASE & GASTRO-ESOPHAGEAL REFLUX DISEASE

1. Describe how you would develop an individualised treatment plan for a patient with gastro-esophageal reflux disease taking into consideration the efficacy and safety of drugs available.
2. Describe an appropriate regimen for the management of a patient with peptic ulcer disease.
3. Discuss the efficacy of various agents in the secondary prevention of NSAID-induced peptic ulcer disease
4. Recommend therapies for treatment of pain and inflammation in patients with peptic ulcer disease

DIARRHOEA

Explain the place of drug therapy in the treatment of diarrhoea and recommend appropriate products. What are the contra-indications to the use of anti-motility drugs in acute diarrhoeal diseases?