Lecture 6
GIT Disorders

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Antiemetic drugs

An antiemetic is a drug that is effective against vomiting and nausea. Antiemetics are typically used to treat motion sickness and the side effects of opioid analgesics, general anaesthetics, and chemotherapy directed against cancer. They may be used for severe cases of gastroenteritis, especially if the patient is dehydrated.

1. Phenothiazines. Prochlorperazine Although increasing the dose improves antiemetic activity, side effects are dose limiting.

2. 5-HT3 receptor blockers: The 5-HT3 receptor antagonists include ondansetron, useful in the management of postoperative nausea and vomiting. 5-HT3 antagonists are extensively metabolized by the liver; however, only ondansetron requires dosage adjustments in hepatic insufficiency. Elimination is through the urine.

3. Substituted benzamides.

Metoclopramide, one of several substituted benzamides with antiemetic activity, Metoclopramide accomplishes this through inhibition of dopamine in the chemoreceptor trigger zone (CTZ). Antidopaminergic side effects, including extrapyramidal symptoms.

ANTIDIARRHEALS

Increased motility of the GI tract and decreased absorption of fluid are major factors in diarrhea. Antidiarrheal drugs include antimotility agents, adsorbents, and drugs that modify fluid and electrolyte transport.

A. Antimotility agents

Two drugs that are widely used to control diarrhea are **diphenoxylate** and **loperamide**, They have opioid-like actions on the gut and decrease peristalsis.

B. Adsorbents Adsorbent agents.

aluminum hydroxide and methylcellulose , are used to control diarrhea. Presumably, these agents act by adsorbing intestinal toxins or microorganisms and/or by coating or protecting the intestinal mucosa. They are much less effective than anti motility agents, and they can interfere with the absorption of other drugs.

Laxatives

Laxatives are commonly used for constipation to accelerate the movement of food through the GI tract. These drugs can be classified on the basis of their mechanism of action, Laxatives increase the potential for loss of pharmacologic effect of poorly absorbed delayed-acting, and extended-release oral preparations by accelerating their transit through the intestines. They may also cause electrolyte imbalances when used chronically. Many of these drugs have a risk of dependency for the user.

A. Irritants and stimulants.

Senna, Bisacodyl and Castor oil.

Castor oil: This agent is broken down in the small intestine to ricinoleic acid, which is very irritating to the stomach and promptly increases peristalsis. Pregnant patients should avoid c astor oil because it may stimulate uterine contractions.

B. Bulk laxatives.

The bulk laxatives include hydrophilic colloids (from indigestible parts of fruits and vegetables). They form gels in the large intestine, causing water retention and intestinal distension, thereby increasing peristaltic activity. Similar actions are produced by methylcellulose, psyllium seeds, and bran. They should be used cautiously in patients who are immobile because of their potential for causing intestinal obstruction.