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# PHARMACOLOGY - III

## UNIT 1

TOPIC :

- b. Drugs for constipation and diarrhoea.



# Drugs for Constipation and Diarrhoea

## Constipation

→ Constipation is a condition in which bowel movements become infrequent, difficult, or painful, usually associated with hard stools.

## Causes of Constipation

- Low fiber diet
- Lack of water intake
- Physical inactivity
- Stress
- Certain drugs (opioids, iron, antacids)
- Intestinal disorders

## Signs and Symptoms

- Hard stools
- Difficulty in passing stool
- Abdominal discomfort
- Bloating
- Reduced bowel movements

## Drugs Used in Constipation (Laxatives/Purgatives)

→ Laxatives are drugs that promote bowel evacuation and relieve constipation.

### Classification of Laxatives

#### 1. Bulk Forming Laxatives

⇒ Absorb water and increase stool bulk.

Examples:

- Psyllium
- Bran
- Methylcellulose

#### 2. Osmotic Laxatives

⇒ Draw water into intestine and soften stool.

Examples:

- Lactulose
- Magnesium hydroxide
- Polyethylene glycol

#### 3. Stimulant Laxatives

⇒ Stimulate intestinal motility.

Examples:

- Senna
- Bisacodyl
- Castor oil

#### 4. Stool Softeners (Emollients)

⇒ Soften feces by increasing water penetration.

Examples:

- Docusate sodium
- Liquid paraffin

#### 5. Lubricant Laxatives

⇒ Lubricate intestine and stool.

Example:

- Mineral oil

#### Mechanism of Action & Uses

| Drug/Class             | Mechanism of Action                   | Uses                            |
|------------------------|---------------------------------------|---------------------------------|
| Bulk-forming laxatives | Increase stool bulk and water content | Chronic constipation            |
| Osmotic laxatives      | Retain water in intestine             | Constipation, bowel preparation |
| Stimulant laxatives    | Stimulate intestinal muscles          | Severe constipation             |
| Stool softeners        | Soften stool                          | Painful defecation              |
| Lubricants             | Lubricate stool passage               | Short-term constipation         |

## Important Drugs

### 1. Lactulose

#### Mechanism

→ Osmotic action increases water in colon.

#### Uses

- Constipation
- Hepatic encephalopathy

#### Adverse Effects

- Flatulence
- Abdominal cramps

### 2. Senna

#### Mechanism

→ Stimulates intestinal motility.

#### Uses

- Acute constipation

#### Adverse Effects

- Abdominal pain
- Diarrhea

## **Diarrhoea**

→ Diarrhoea is the frequent passage of loose or watery stools.

### **Causes of Diarrhoea**

- Infection (bacteria, viruses)
- Food poisoning
- Contaminated water
- Drug-induced diarrhea
- Intestinal diseases

### **Signs and Symptoms**

- Loose stools
- Abdominal cramps
- Dehydration
- Weakness
- Nausea and vomiting

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## Drugs Used in Diarrhoea (Antidiarrheal Drugs)

### Classification

#### 1. Adsorbents

- ▲ Absorb toxins and bacteria.

Examples:

- Kaolin
- Pectin

#### 2. Antimotility Drugs

- ▲ Reduce intestinal movement.

Examples:

- Loperamide
- Diphenoxylate

#### 3. Antisecretory Drugs

- ▲ Reduce fluid secretion.

Example:

- Bismuth subsalicylate

#### 4. Probiotics

- ▲ Restore normal intestinal flora.

Examples:

- Lactobacillus preparations

#### 5. Oral Rehydration Therapy (ORT)

- Replaces lost water and electrolytes.

## Mechanism of Action & Uses

| Drug/Class            | Mechanism of Action                | Uses                           |
|-----------------------|------------------------------------|--------------------------------|
| Loperamide            | Decreases intestinal motility      | Acute diarrhea                 |
| Diphenoxylate         | Slows bowel movement               | Severe diarrhea                |
| Bismuth subsalicylate | Reduces secretion and inflammation | Traveler's diarrhea            |
| Probiotics            | Restore intestinal flora           | Antibiotic-associated diarrhea |
| ORS                   | Replaces fluids and electrolytes   | Dehydration prevention         |

## Important Drugs

### 1. Loperamide

#### Mechanism

- Acts on opioid receptors in intestine and decreases motility.

#### Uses

- Acute diarrhea
- Chronic diarrhea

#### Adverse Effects

- Constipation
- Drowsiness

### 2. Bismuth Subsalicylate

#### Mechanism

- Reduces intestinal secretion and inflammation.

#### Uses

- Traveler's diarrhea
- Mild diarrhea

#### Adverse Effects

- Black stools
- Nausea

## Oral Rehydration Solution (ORS)

### Composition

Contains:

- Sodium chloride
- Potassium chloride
- Glucose
- Sodium citrate

### Importance

→ Prevents dehydration caused by diarrhea.

### Precautions

#### In Constipation

- Increase water intake
- Eat fiber-rich diet
- Avoid overuse of laxatives

#### In Diarrhoea

- Maintain hydration
- Avoid contaminated food
- Use antibiotics only when prescribed

### Advantages

#### Laxatives

- Relieve constipation
- Ease bowel movement

#### Antidiarrheal Drugs

- Reduce stool frequency
- Prevent dehydration

### Disadvantages

#### Laxatives

- Electrolyte imbalance
- Dependence on prolonged use

#### Antidiarrheal Drugs

- Constipation
- May mask intestinal infection