



**Dr abbas Hamad**  
**pulmonologist**



المحاضرة 12 - المرحلة الثانية  
الطب الباطني - تقنيات التخدير

**CONSTIPATION**

# Constipation

Constipation is defined as infrequent passage of hard stools. Patients may also complain of straining, a sensation of incomplete evacuation and either perianal or abdominal discomfort. Constipation may occur in many gastrointestinal and other medical disorders

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## 21.20 Causes of constipation

### Gastrointestinal causes

#### Dietary

- Lack of fibre and/or fluid intake

#### Motility

- Slow-transit constipation
- Irritable bowel syndrome
- Drugs (see below)
- Chronic intestinal pseudo-obstruction

#### Structural

- Colonic carcinoma
- Diverticular disease
- Hirschsprung's disease

#### Defecation

- Anorectal disease (Crohn's, fissures, haemorrhoids)
- Obstructed defecation

# Continue the causes of constipation

## Non-gastrointestinal causes

### Drugs

- Opiates
- Anticholinergics
- Calcium antagonists
- Iron supplements
- Aluminium-containing antacids

### Neurological

- Multiple sclerosis
- Spinal cord lesions
- Cerebrovascular accidents
- Parkinsonism

### Metabolic/endocrine

- Diabetes mellitus
- Hypercalcaemia
- Hypothyroidism
- Pregnancy

### Others

- Any serious illness with immobility, especially in the elderly
- Depression

# Complications

If untreated, constipation can lead to:

**1-Faecal impaction.**

**2-Rectal bleeding.**

**3-Anal fissures.**

**4-hemorrhoids.**

# Patient assessment with constipation

## 1-Details of bowel habit:

Patients who are constipated will usually complain of hard stools which are difficult to pass and less frequent than usual.

## 2-Associated symptoms:

A-Intestinal obstruction (colicky abdominal pain, abdominal distension and vomiting).

B-Blood in the stool

C-Constipation with associated weight gain, deepening of the voice, feeling of tiredness and coarse hair (may indicate hypothyroidism ) ----- referral –

D-Constipation with associated weight loss (may indicate carcinoma) ----- referral



# 3- Diet and lifestyle

# 4-Medication

Table 3 Drugs that may cause constipation.

Drug group	Drug
Analgesics and opiates	<i>Dihydrocodeine, codeine</i>
Antacids	<i>Aluminium salts</i>
Anticholinergics	<i>Hyoscine</i>
Anticonvulsants	<i>Phenytoin</i>
Antidepressants	<i>Tricyclics, selective serotonin reuptake inhibitors</i>
Antihistamines	<i>Chlorpheniramine, promethazine</i>
Antihypertensives	<i>Clonidine, methyldopa</i>
Anti-Parkinson agents	<i>Levodopa</i>
Beta-blockers	<i>Propranolol</i>
Diuretics	<i>Bendroflumethiazide</i>
Iron	
Laxative abuse	
Monoamine oxidase inhibitors	
Antipsychotics	<i>Chlorpromazine</i>

# When to refer

Change in bowel habit of 2 weeks or longer

Presence of abdominal pain, vomiting, bloating

Blood in stools

Prescribed medication suspected of causing symptoms

Failure of OTC medication

# **A-Non-pharmacologic advices**

- 1-Increase intakes of dietary fibers .
- 2-Drink plenty of fluid (8 or more glasses /day) (1.5 to 2 L of fluid per day).
- 3-Develop and maintain a routine exercise program (if the C.V.S. is healthy).
- 4-Patients should also be encouraged to respond immediately to any urge to defecate.

# Laxative selection bases

- The drug selection should be based on:
- 1-Patients characteristics (age, pregnancy, .....)
- 2-Patient preference
- 3-How quickly an effect is needed
- 4-side effects
- 5-Cost

# DRUG THERAPY: LAXATIVES

- *: General indications:*
- 1.Fecal impaction
- 2.Constipation associated with illness, surgery, pregnancy or poor diet
- 3.Drug-induced constipation
- 4.Conditions where bowel strain is undesirable
- 5.Preparation for surgery or investigations involving the GIT (e.g. sigmoidoscopy)

# 1. BULK-FORMING AGENTS: [DIETARY FIBERS – METHYLCELLULOSE – BRAN]

- Mechanism of action They are non-digestible fibers; they retain water in the gut and distend the large intestine → activation of stretch receptors → stimulation of peristalsis. Adverse effects: they are safe laxatives but may cause:
  - Bloating and abdominal distension.
  - ↓ absorption of some drugs e.g. digoxin.
  - They may form masses in the gut leading to intestinal obstruction.

## 2. OSMOTIC LAXATIVES: [MG SULFATE & NA SALTS – LACTULOSE – POLYETHYLENE GLYCOL]

- Mechanism of action They are retained in the gut lumen and retain water by their osmotic effect → activation of stretch receptors → stimulation of peristalsis. Adverse effects –Mg & Na salts (saline laxatives) may be absorbed systemically and produce hypermagnesemia and hypernatremia especially in patients with renal failure. – Lactulose may produce abdominal discomfort. –Polyethylene glycol may produce electrolyte disturbance (hypokalemia).

### 3. IRRITANT (OR STIMULANT) LAXATIVES: [CASTOR OIL – SENNA – BISACODYL]

- Mechanism of action They produce inflammation (irritation) of the intestinal mucosa and inhibit  $\text{Na}^+/\text{K}^+$  ATPase enzyme leading to: – Accumulation of water and electrolytes in the gut lumen. – Direct stimulation of peristalsis by their irritant effect.  
Adverse effects Castor oil – Bad taste .– Stimulation of uterine contraction and abortion Senna – It passes in urine and cause urine discoloration – It passes in breast milk and cause cathartic effect in the baby. – Prolonged use → degeneration of gut nervous plexus → atonic(cathartic ) colon. – Increase menstrual blood flow w and abortion o in pregnancy .



## 4. Stool softeners: Docusate sodium

- Mechanism: they are anionic surfactants that enable additional water and fats incorporated in the stool, making it easier to move through the GIT

## 5. LUBRICANT LAXATIVES : LIQUID PARAFFIN – – GLYCERIN SUPPOSITORIES – EVACUANT ENEMA]

- (Mechanism of action) –Paraffin oil it coats the fecal matter and retards water absorption by the colon. –Glycerin has hygroscopic effect . It draws water from rectal mucosa and lubricates the anal canal. It also stimulates reflex rectal contractions and promotes stool evacuation in 15-20 min. Adverse effects :paraffin oil decreases absorption of fat -- soluble vitamins

## 6. CHLORIDE CHANNEL ACTIVATORS: LUBIPROSTONE

- **MECHANISM OF ACTION** It acts by activating chloride channels to increase fluid secretion in the intestinal lumen. This eases the passage of stool and causes little change in electrolyte balance.

## General indications of laxatives

- 1-Constipation: laxatives should not be used for prolonged duration to avoid laxative dependence.
- 2-To fasten excretion of toxic substances from the GIT.
- 3- To prepare the bowel before X-ray or colonoscopy.
- 4-Hepatic encephalopathy (lactulose): to kill ammonia producing bacteria.
- 5-Painful anal conditions e.g. anal fissure or piles.
- 6- Postoperative: e.g. after hemorrhoids (piles) to avoid strain.

## Contraindications of laxatives

- 1-Laxatives are dangerous in cases of undiagnosed abdominal pain or inflammatory bowel disease. They may lead to intestinal perforation.
- 2- Organic obstruction of the GIT.

- THANK YOU
- FOR YOUR
- ATTENTION