constipations

H. Akbari

MD. Internist

Golestan university of medical sciences

Constipation

DEFINITION:

- passage of stool infrequently or with difficulty
- Stool frequency of less than three per week
- Fullness in abdomen
- Straining
- Hard stool
- Incomplete evacuation

Constipation

Epidemiology:

- adult population 10%
- elderly population 20 to 30 %
- [22% in elderly living in the community]
- [50% in hospice adult/elderly]
- [63% in hospitalized elderly]

Romero Y. Et.al. 1990; Mayo Clin Proc; 1996: 81-92.

WigzellFW. Gerontol Clin 1969; 11: 137-144.

Pathophysiology: Motility Patterns

Colon: less frequent episodes of forward motor activity, manometry suggests about six times per day grouped into two peaks:

- Larger one associated with awakening and breakfast
- Smaller one associated with the midday meal

Bassotti G. Am J Physiol. 1988; 255: G660-664
Holdstock DJ. Gut 1970; 11: 91-99.

What Causes Constipation?

- Eating too little fiber
- Not drinking enough liquids
- Lack of exercise/physical activity

What Causes Constipation?

- Change in routine
  - travel
- Older age
  - Slower metabolism
- Frequent use of laxatives
- Certain diseases or conditions

Constipation

Can be induced by one of the following diseases:

- Hypothyroidism
- hypercalcemia
- Megacolon
- Stricture
- Diabetes Mellitus
- Irritable Bowel Syndrome
-

Causes of Constipation in Adults

Types of Constipation and Causes	Examples
Recent Onset	
Colonic obstruction	Neoplasm: stricture: ischemic, diverticular, inflammatory
Anal sphincter spasm	Anal fissure, painful hemorrhoids
Medications	
Chronic	
Irritable bowel syndrome	Constipation-predominant, alternating
Medications	Ca2+ blockers, antidepressants
Colonic pseudo-obstruction	Slow transit constipation, megacolon (rare Hirschsprung's, Chagas)
Disorders of rectal evacuation	Pelvic floor dysfunction, anismus, descending perineum syndrome, rectal mucosal prolapse, rectocele
Endocrinopathies	Hypothyroidism, hypercalcemia, pregnancy
Psychiatric disorders	Depression, eating disorders, drugs
Neurologic disease	Parkinsonism, multiple sclerosis, spinal cord injury
Generalized muscle disease	Progressive systemic sclerosis

What Causes Constipation?

- Medications

– Narcotics
– antacids containing Alum or Ca
– antidepressants
– iron supplements
– Diuretics

— Certain calcium channel blockers:
ex. Verapamil & diltiazem
— Drugs with anticholinergic activity
— laxative overuse
— phenothiazines
— resins (cholestyramine, colestipol)
— sucralfate

CONSTIPATION

EVALUATION:

1. History:

- **Psychometric Assessment of Constipation**: stool, rectal, and abdominal symptoms.

2. Examination:

- Full physical, abdominal and rectal.

Patient Assessment of Constipation-Symptom Questionnaire

How severe have these symptoms been in the last 2 wks?

1. Discomfort in your abdomen
2. Pain in your abdomen
3. Bloating in your abdomen
4. Stomach Cramps
5. Painful bowel movements
6. Rectal burning during or after bowel movement
7. Rectal bleeding or tearing during or after a BM
8. Incomplete bowel movement, like you didn't 'finish'
9. Bowel movements that were too hard
10. Bowel movements that were too small
11. Straining or squeezing to try to pass BM's
12. Feeling like you had to pass a BM but you couldn't

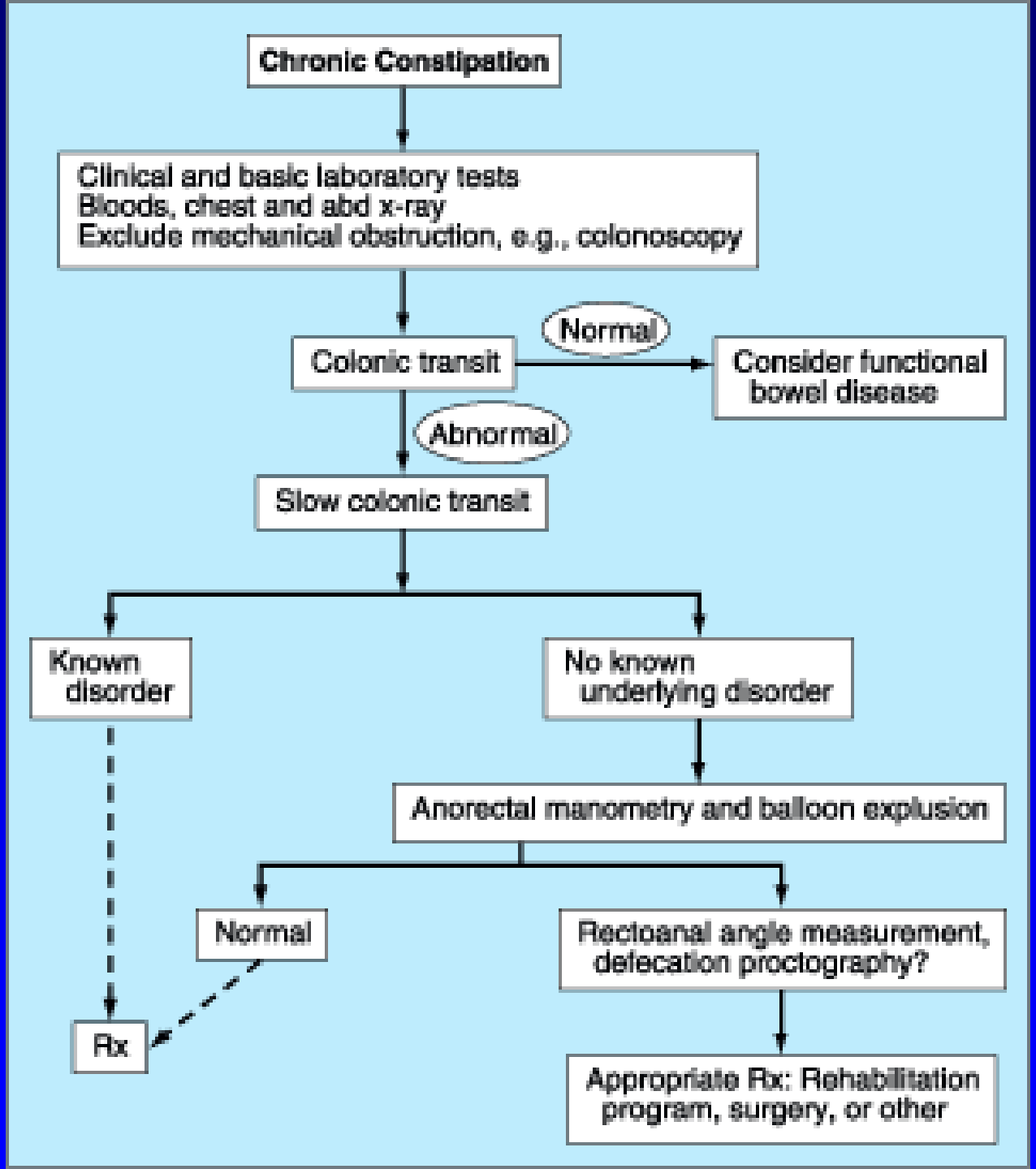
Refer When……

- Symptoms have persisted for more than 2 weeks
- Have recurred after previous dietary or lifestyle changes or laxative use
- Patients who admit to blood in the stool

- Presence of **Alarm signs** :
  - Weight loss
  - Rectal bleeding
  - Anemia (especially in age > 40)

Objectives for Self Treatment

- To relieve constipation and restore “normal” bowel functioning using:
- Dietary and Lifestyle measures
- Using OTC medications for the relief of constipation


Chronic Constipation
Clinical and basic laboratory tests
Bloods, chest and abd x-ray
Exclude mechanical obstruction, e.g., colonoscopy
Colonic transit
Normal
Consider functional bowel disease
Abnormal
Slow colonic transit
Known disorder
No known underlying disorder
Anorectal manometry and balloon explusion
Normal
Rectoanal angle measurement, defecation proctography?
Rx
Appropriate Rx: Rehabilitation program, surgery, or other

CONSTIPATION

Diagnostic Studies:

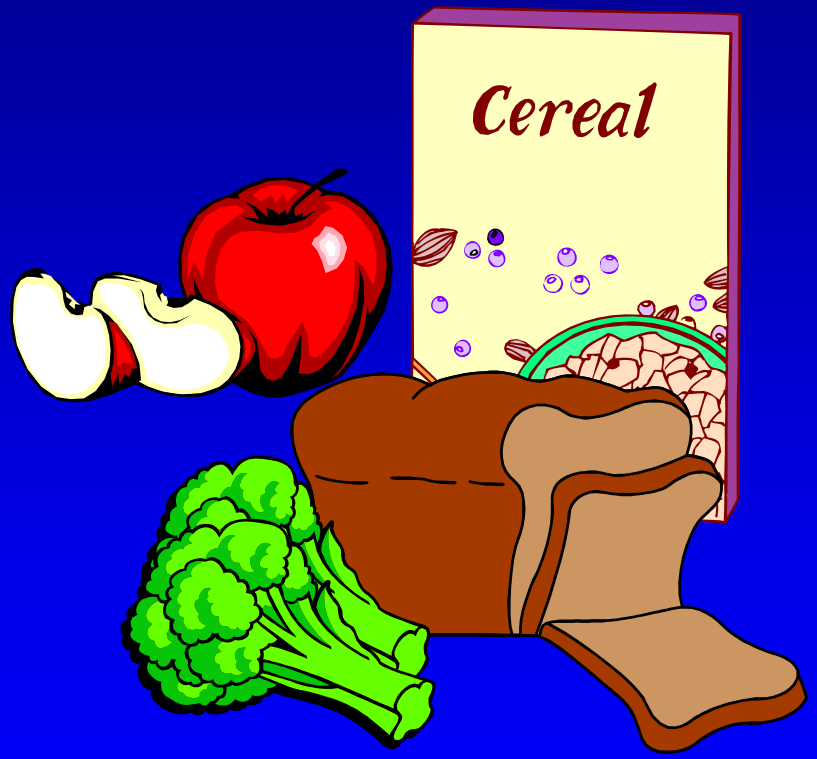
- **Transit Time: radiopaque markers & day 4 X-ray.**
- **Electromyography of rectosigmoid**
- **Anorectal manometry: rectal sensation & compliance**
- **Balloon distention and expulsion.**
- **Defecography: thick barium introduced in rectum**

Wexner SD. Etal. Colorectal physiological tests: Use or abuse of technology? Eur J Surg 160: 67-74, 1994

Harrison's 2001 5th Edition, Ahlquist & Camilleri: Diarrhea & Constipation: 248-249.

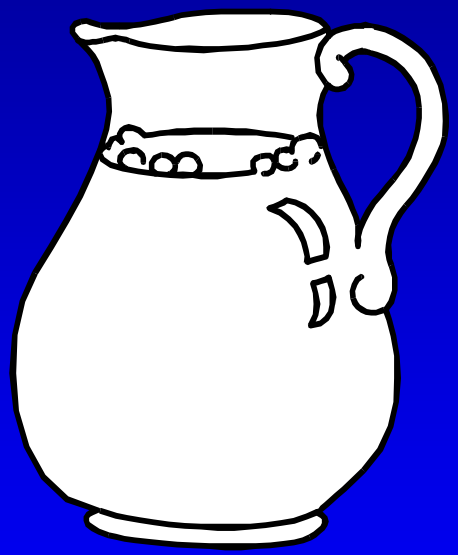
Patient educations

- Eat more fiber
  - More beans, whole grains and bran cereals, fresh fruits, vegetables
  - Limit foods with no fiber (cheese, meat, sweets, processed foods)



Patient educations

- Drink more water and other liquids (8 eight-ounce glasses a day)
  - Liquid helps keep the stool soft
  - Avoid caffeine or alcohol which can dehydrate you



Patient educations

- Become more physically active
  - A 30 minute walk every day may help keep you more regular

Patient educations

- Allow yourself enough time to have a bowel movement (especially after breakfast)
  - If you get in a hurry and ignore the urge to have a bowel movement, it can cause constipation

Patient educations

- Use laxatives only if a doctor says you should
  - Laxatives can cause:
    - Poor absorption of vitamins and minerals
    - Loss of water, sodium and potassium
    - Damage to your intestines

Patient educations

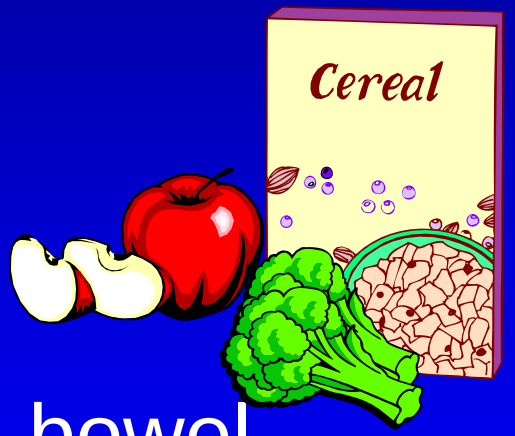
- Fiber supplements are best choice
  - Absorb water and make stool softer
  - Safe to use everyday
  - Be sure to drink at least 8 to 10 glasses of water everyday
  - Add to diet slowly to prevent problems with gas

Patient educations

- Other types of laxatives should only be used for a short time
  - Lubricants (mineral oil)
    - Soften and lubricate stool
  - Stool Softeners
    - Provide moisture to stool
  - Stimulants
    - Cause muscle contractions in intestines
  - Saline laxatives
    - Draw water into colon

Points to Remember

- Eat a variety of foods. Eat a lot of beans, bran, whole grains, and fresh fruits and vegetables
- Drink plenty of liquids
- Exercise regularly
- Don’t ignore the urge to have a bowel movement



Points to Remember

- If your bowel habits change, check with your doctor.
- Most people do not need laxatives. Your doctor may recommend them for a limited time only.
- Medicines may cause constipation. Check with your doctor.

Non Prescription Medications

Types of laxatives:

- Stimulant
- Hyperosmotics
- Bulk-formers
- Lubricants
- Stool softeners

Stimulant Laxatives

- Increase intestinal motility and secretion
- Potent, may cause watery stools, cramping
- Often used for preprocedure bowel preps, postop
- Potential for abuse
- Side effects: abdominal discomfort, nausea, cramps

Bisacodyl (Dulcolax)

- Tablets or suppository
  - Tablets used often in bowel preps
    - onset 6-12 hrs
  - Suppository: very effective for postop constipation
    - onset 15-60 minutes

Senokot (senna)

- Natural, obtained from dried cassia leaflets
- Used for simple constipation, postop, other
- Onset: 6-12 hours (up to 24)

Hyperosmotic laxatives

- Increases colonic fluid retention
- Feces become more liquid
- Stimulates peristalsis

Glycerin

- Suppository & Enema

Lactulose

- Used primarily for prevention of hepatic encephalopathy in liver failure
  - Binds to ammonia in the blood
  - In acute phase, 30-45cc/hr until diarrhea
  - Then 3-4 times/day
    - Dosage adjusted to produce 2-3 soft stools/day
  - Monitor patient's mental status & level of consciousness, ammonia levels
  - Side effects: flatulence, abd. bloating, diarrhea

Milk of Magnesia

- Osmotic saline laxative
- Used in simple constipation & postop
- Suspension
- Use cautiously in renal impairment
  - Potential for hypermagnesemia due to reduced excretion

GoLYTELY (Polyethylene glycol-electrolyte solution)

- Used as bowel prep for colon surgery & GI procedures
- Induces diarrhea, cleanses bowel. Isotonic
- 1 gallon, needs to be reconstituted
- Fast at least 3 hrs prior, no meds< 1 hr prior
- Instruct patient to drink 250 cc/10 minutes until clear watery stools
- Onset 30-60 min, duration 4 hrs
- SE: nausea, fullness, bloating

Bulk-forming Laxatives

- Metamucil, Citrucel, etc.
- Swell in water to form gel that increases bulk and softens stool, increases peristalsis
  - Similar to the action of dietary fiber
- Useful in chronic constipation, and in irritable bowel syndrome
- Onset: 12-24 hrs
- Powder needs reconstitution in at least 8 oz water or juice

Stool softeners

- Docusate (Colace, Doss)
- Reduce surface tension in the bowel increasing water absorption into stool
- Onset: 24-48 hrs (up to 3-5 days)
- Side effects: (rare) GI pain, cramping, rash
- Administer with adequate fluids

Prokinetic agents

- Metoclopramide
- Cisapride
- Erythromycin

Constipation from opioids . . .

- Occurs with all opioids
- Pharmacologic tolerance developed slowly, or not at all
- Dietary interventions alone usually not sufficient
- Avoid bulk-forming agents in debilitated patients

. . . Constipation from opioids

- Combination stimulant / softeners are useful first-line medications
  - casanthranol + docusate sodium
  - senna + docusate sodium
- Prokinetic agents

Patient Counseling

- Laxative use to treat constipation should be only on a temporary measure
- If laxatives are not effective after 1 week, a physician should be consulted


thirst

Mechanism of thirst

- Primary stimulus for water ingestion is thirst
- Thirst mediated by :
    1. Increase in effective Osm
    2. Decrease in ECF vol.
    3. Decrease BP
- Because AVP can’t reduce water loss below a certain minimal level obligated by urinary solute load & evaporation from skin & lung, **thirst** mechanism need for adequate intake for preventing dehydration

Mechanism of thirst

- Like AVP thirst is regulated primarily by an osmostat that is located in the anteromedial hypothalamus & is able to detect very small changes in plasma concentration of Na certain other effective solutes

- The thirst osmostat appears to be “ set point ” about 5% higher than the AVP osmostat

Causes of Hypovolemia

I. **ECF volume contracted**
   A. Extrarenal Na+ loss
      1. Gastrointestinal (vomiting, nasogastric suction, drainage, fistula, diarrhea)
      2. Skin/respiratory (insensible losses, sweat, burns)
      3. Hemorrhage
   B. Renal Na+ and water loss
      1. Diuretics
      2. Osmotic diuresis (diabetes, hyperglycemia)
      3. Hypoaldosteronism
      4. Salt-wasting nephropathies
   C. Renal water loss
      1. Diabetes insipidus (central or nephrogenic)

II. **ECF volume normal or expanded**
   A. Decreased cardiac output
      1. Myocardial, valvular, or pericardial disease
   B. Redistribution
      1. Hypoalbuminemia (hepatic cirrhosis, nephrotic syndrome)
      2. Capillary leak (acute pancreatitis, ischemic bowel, rhabdomyolysis)
   C. Increased venous capacitance
      1. Sepsis

Causes of Diabetes Insipidus

Pituitary diabetes insipidus

Acquired
Head trauma (closed and penetrating)
Neoplasms
Primary
Craniopharyngioma
Pituitary adenoma (suprasellar)
Dysgerminoma
Meningioma
Metastatic (lung, breast)
Hematologic (lymphoma, leukemia)
Infectious
Chronic meningitis
Viral encephalitis
Toxoplasmosis
Inflammatory
Lymphocytic infundibuloneurohypophysitis
Wegener's granulomatosis
Lupus erythematosus
Scleroderma

Chemical toxins
Tetrodotoxin
Snake venom
Vascular
Sheehan's syndrome
Aneurysm (internal carotid)
Aortocoronary bypass
Hypoxic encephalopathy
Septooptic dysplasia
Midline craniofacial defects
Holoprosencephaly
Hypogensis, ectopia of pituitary

Nephrogenic diabetes insipidus

Acquired
Drugs
Lithium
Demeclocycline
Methoxyflurane
Amphotericin B
Aminoglycosides
Cisplatin
Rifampin
Foscarnet
Metabolic
Hypercalcemia, hypercalciuria
Hypokalemia
Obstruction (ureter or urethra)
Vascular
Sickle cell disease and trait
Ischemia (acute tubular necrosis)
Granulomas
Neurosarcoid
Neoplasms
Sarcoma
Infiltration
Amyloidosis
Idiopathic

Primary polydipsia

Acquired
Psychogenic
Schizophrenia
Obsessive-compulsive disorder
Dipsogenic (abnormal thirst)
Granulomas
Neurosarcoid
Infectious
Tuberculous meningitis
Head trauma (closed and penetrating)
Demyelination
Multiple sclerosis
Drugs
Lithium
Carbamazepine
Idiopathic
Iatrogenic

xerostomia

Xerostomia is one the problems of elderly, this problem can cause :

- Difficult chewing
- Difficult swalloing
- Decreased taste sensation

Etiology of xerostomia

- Decreased saliva secretion in old age
- Use of diuretics
- Use of sedative/hypnotics
- Mouth breathing
- Smoking

Consevative Management

- Prepare ½ tea spoon full salt in one glass of water, then wash your mouth with solution 2-3 times daily
- Drink 6-8 glasses of water daily
- Keep your mouth moisten with alittle water
- Wash your mouth & drink some water before intake food
- Avoid taking drugs without consult by a doctor
- Avoid from smoking
- Take more fruits & vegetables
- Consult with a doctor


With thanks