

Changes in Bowel Habits

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Objectives



At the end of the session, Students will be able to:

- ❏ **Define** constipation and diarrhea.
 - ❏ **Discuss** the definition, etiology and classification of irritable bowel syndrome (IBS)
 - ❏ **Demonstrate** history taking, physical examination, and management for patients presented with history suggestive of IBS. i.e Role play.
 - ❏ **Discuss** the alarm symptoms in patients presenting with change bowel habit.
 - ❏ **Identity** the criteria for the referral to specialist.
 - ❏ **Practical:** Examination of Abdomen, How to do?
- 

MCQs

1- 50 years old patient known case of IBS. Came to the clinic to see the CBC results that you ordered for him before as you suspecting anemia and it showed that he had iron deficiency anemia. Which of the following is your next step?

- A) Refer him for endoscopy
- B) Request ferritin level
- C) Order CT scan
- D) Start iron supplements and follow him up

MCQs

2- IBS is a diagnosis of exclusion:

- A) True
- B) False

MCQs

3- Management of IBS include:

- A) Lifestyle modification
- B) Pharmacological therapy
- C) Dietary advice
- D) All of the above

MCQs

4- You are evaluating a patient new to your practice who is complaining of abdominal pain. The pain has been present on and off for more than 2 years, and has been present more often than not for the preceding 6 months. She reports that her pain is related to defecation and is associated with diarrhea. Which of the following is true regarding diagnostic testing for her condition?

- A) A normal complete blood count (CBC) is necessary for diagnosis.
- B) A colonoscopy is necessary for diagnosis.
- C) Normal stool cultures are necessary for diagnosis.
- D) No tests are necessary to diagnose this condition.

MCQs

5- Which one of the following is NOT an indication for referral in patient presenting with IBS symptoms?

- A) Unexplained weight loss
- B) Family history of colon cancer
- C) Chronic constipation
- D) Iron deficiency anemia unexplained

Constipation



Defined as⁽¹⁾:

Three or fewer bowel movements per week.

Having fewer bowel movements is **associated with** symptoms of lower abdominal **discomfort, distension, or bloating**.

Other definition⁽²⁾:

Constipation is a clinical diagnosis based on symptoms of incomplete elimination of stool, difficulty passing stool, or both.

Chronic constipation⁽³⁾ is characterized by the presence of symptoms for at least three months out of the preceding 12 months.

(1) Johanson JF, Sonnenberg A, Koch TR. Clinical epidemiology of chronic constipation. *J Clin Gastroenterol*. 1989;11(5):525-536





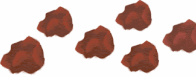


(2) Bharucha AE, Pemberton JH, Locke GR III. American Gastroenterological Association technical review on constipation. *Gastroenterology*. 2013;144(1):218-238

(3) Mounsey A, Raleigh M, Wilson A, Carolina N, Hill C, Carolina N. Management of Constipation in Older Adults. *Am Fam Physician*. *American Family Physician*; 2015;92(6):500-4.

Bristol stool form scale (4)

“

Bristol Stool Form Scale

Type 1		Separate, hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces Entirely liquid

Types of constipation⁽³⁾

Primary (Functional)

1- **Normal transit constipation** (most common): Hard stool or difficulty with defecation, but normal stool frequency.

2- **Slow transit constipation**: Abnormal innervation of the bowel or visceral myopathy, leads to increased transit time of stool through the colon with infrequent defecation, bloating, and abdominal discomfort.

3- **Disorders of defecation**: Impaired defecation by decreased smooth muscle contraction in the rectum or the inability to relax the muscles of defecation. Common in elderly.

Secondary

Table 2. Selected Causes of Secondary Constipation

Medications

Common

- Antacids, especially with calcium
- Iron supplements
- Opioids

Less common

- Anticholinergic agents
- Antidiarrheal agents
- Antihistamines
- Antiparkinsonian agents
- Antipsychotics
- Calcium channel blockers
- Calcium supplements
- Diuretics
- Nonsteroidal anti-inflammatory drugs
- Sympathomimetics
- Tricyclic antidepressants

Medical conditions

Common

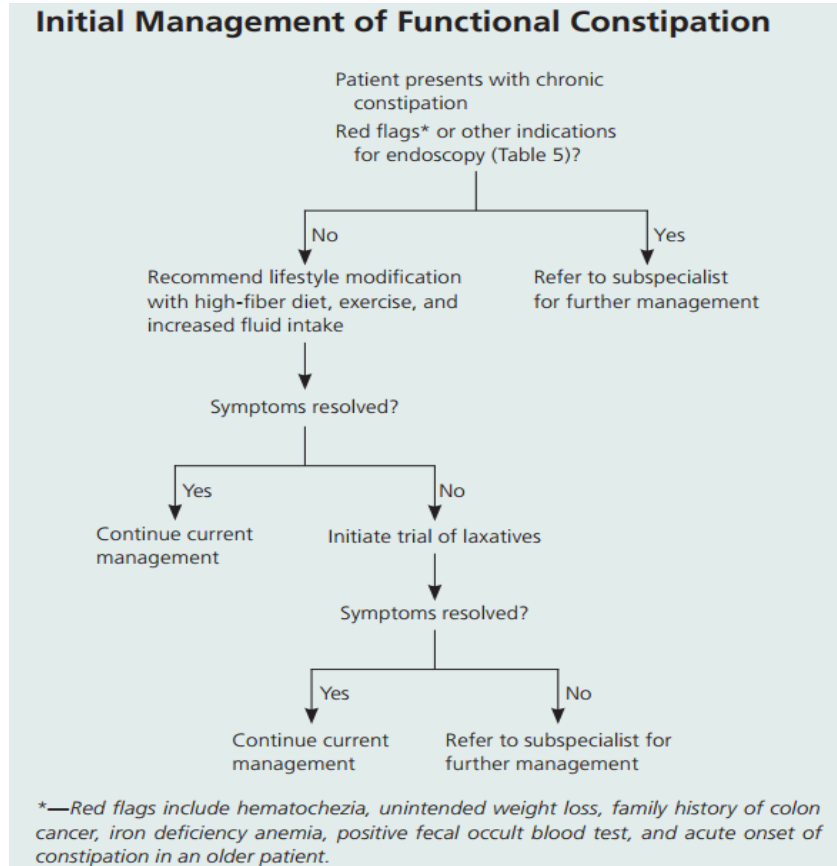
- Cerebrovascular disease
- Depression
- Diabetes mellitus
- Hypothyroidism
- Irritable bowel syndrome

Less common

- Anal fissures
- Autonomic neuropathy
- Cognitive impairment
- Colon cancer
- Hypercalcemia
- Hypokalemia
- Hypomagnesemia
- Immobility
- Multiple sclerosis
- Parkinson disease
- Spinal cord injury

Information from reference 17.

Algorithm for initial management of functional constipation⁽⁴⁾



(4) Olden KW. Diagnostic Approach to Chronic Constipation in Adults. 2011;299-306.

Algorithm for initial management of functional constipation⁽⁴⁾

Table 5. Indications for Endoscopy in Patients with Constipation

Age older than 50 years with no previous colorectal cancer screening
Before surgery for constipation
Change in stool caliber
Heme-positive stools
Iron deficiency anemia
Obstructive symptoms
Recent onset of constipation
Rectal bleeding
Rectal prolapse
Weight loss

Information from reference 53.

(4) Olden KW. Diagnostic Approach to Chronic Constipation in Adults. 2011;299-306.

Management of chronic Constipation in older adult⁽³⁾

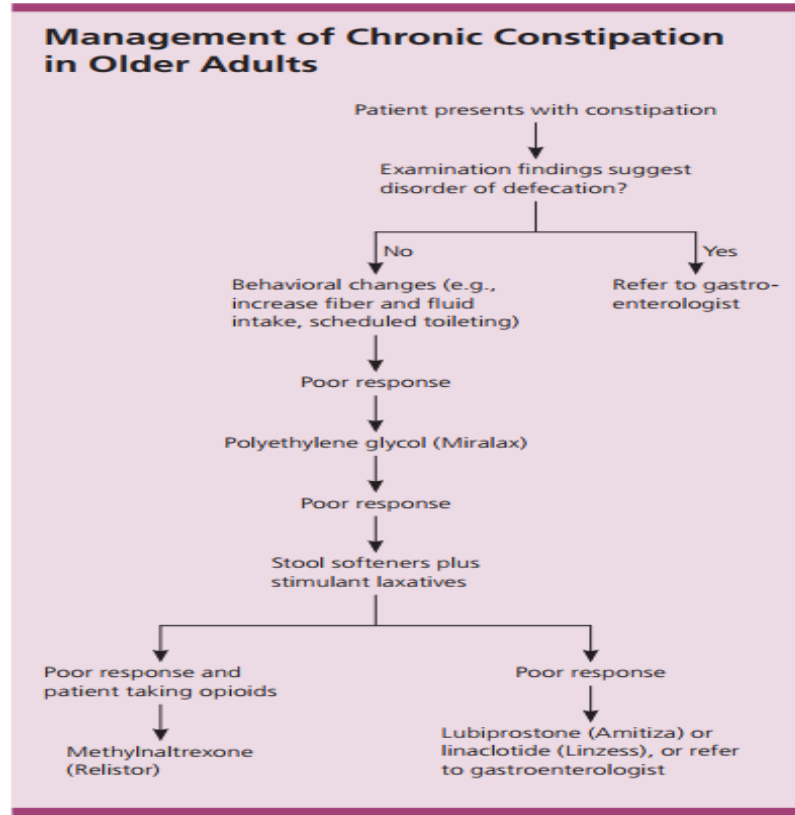


Figure 1. Suggested approach to management of chronic constipation in older adults.

(3) Mounsey A, Raleigh M, Wilson A, Carolina N, Hill C, Carolina N. Management of Constipation in Older Adults. *Am Fam Physician. American Family Physician*; 2015;92(6):500-4.

Table 1. Medications for the Treatment of Constipation

Agent	Typical dosage*	Time of onset	Adverse effects
Bulking agents			
Methylcellulose powder	19 g per day	12 to 72 hours	None compared with placebo ¹⁷
Polycarbophil (Fibercon) tablets	1,250 mg, one to four times per day	12 to 72 hours	None recorded ¹⁸
Psyllium (Metamucil) powder	1 tsp or 1 packet one to three times per day	12 to 24 hours	Bloating, abdominal distension in 4% to 18% ^{16,17}
Osmotic laxatives			
Lactulose solution	15 to 30 mL per day	24 to 48 hours	Bloating and cramping; nausea in up to 20% ¹⁹
Magnesium citrate solution	150 to 300 mL, single dose or short-term daily dose	30 minutes to 6 hours	Increase in magnesium, causing lethargy, hypotension, respiratory depression ²⁰
Magnesium hydroxide suspension	30 to 60 mL per day	30 minutes to 6 hours	Increase in magnesium, causing lethargy, hypotension, respiratory depression ²⁰
Polyethylene glycol (Miralax) powder	17 g per day	24 to 48 hours	Minimal adverse effects of cramping and gas ¹⁸
Sorbitol solution	2 to 3 tbsp, single dose or short-term daily dose	24 to 48 hours	Bloating, cramping, and nausea ¹⁹
Stool softeners			
Docusate sodium (Colace) capsules	100 mg twice per day	24 to 48 hours	None reported ¹⁶
Stimulant laxatives			
Bisacodyl (Dulcolax) tablets	5 to 15 mg per day	6 to 10 hours	Diarrhea and abdominal pain in 56% in week 1 and 5% in week 4 ²¹
Senna tablets	15 mg per day	6 to 12 hours	Abdominal pain in up to 12% ¹⁶
Chloride channel activators			
Lubiprostone (Amitiza)† capsules	24 mcg twice per day	Within 24 hours	Nausea in 18% ²²
Peripherally acting mu opioid antagonists			
Methylnaltrexone (Relistor)‡ solution	Weight-based subcutaneous injection, once or twice per day	30 to 60 minutes	Diarrhea in 8% Abdominal pain in 13% ²³
Other			
Linaclotide (Linzess) capsules	145 mcg per day	—	Diarrhea in 16%, which led to treatment cessation in 4% ²⁴

*—All formulations are oral, unless specified.

†—Estimated retail price for one month's treatment is \$300, based on information obtained at <http://www.goodrx.com> (accessed May 15, 2015).

‡—Estimated retail price for one month's treatment is \$1,200, based on information obtained at <http://www.goodrx.com> (accessed June 10, 2015).

Additional fiber intake in form of →

2

3

4

5

Diarrhea⁽⁵⁾⁽⁶⁾



Chronic diarrhea is defined as a decrease in stool consistency continuing for more than four weeks.

It can be divided into three basic categories:

Watery

- 1- Osmotic
- 2- Secretory
- 3- Functional

Fatty (malabsorption)

Inflammatory



(5) Fine KD, Schiller LR. AGA technical review on the evaluation and management of chronic diarrhea. *Gastroenterology*. 1999; 116(6): 1464-1486.

(6) Feldman M, Friedman LS, Sleisenger MH, eds. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis, and Management*. 7th ed. Philadelphia, Pa.: Saunders; 2002: 137.

Algorithm for the diagnosis of chronic diarrhea⁽⁴⁾⁽⁶⁾

Diagnosis of Chronic Diarrhea

Diagnosis

History: age, duration, food, family history, pattern, timing, travel

Physical examination: general, eye, skin, abdomen, anorectal

Laboratory tests

Blood (albumin and thyroid-stimulating hormone levels; complete blood count; erythrocyte sedimentation rate; liver function testing)

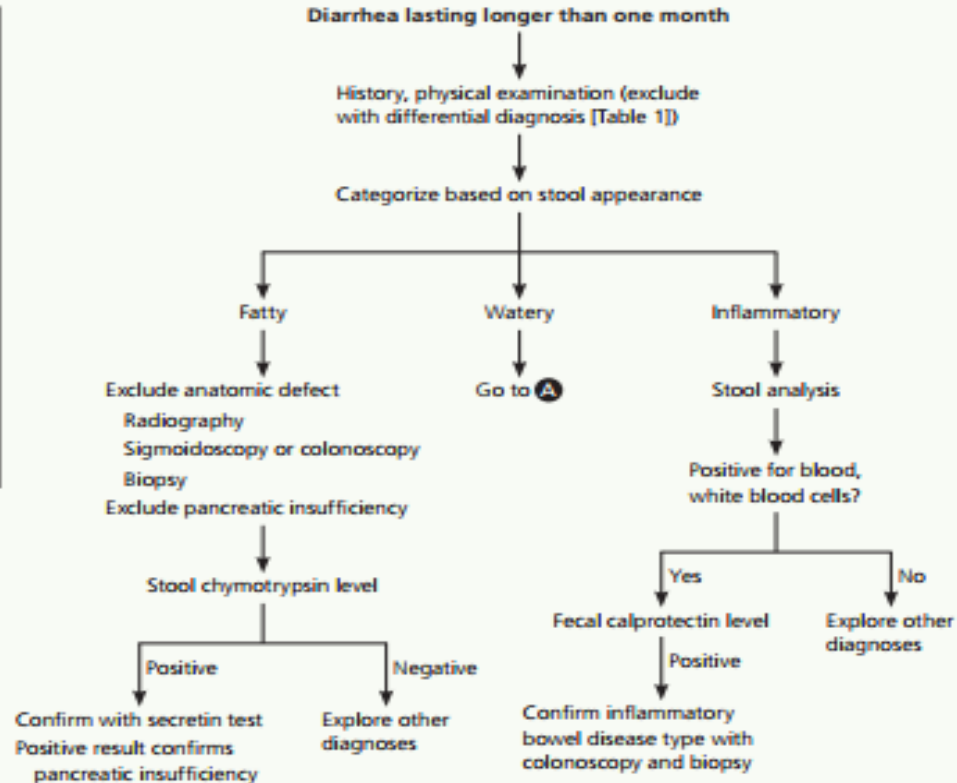
Stool (bacteria, blood, fat, leukocytes, ova and parasites, pH test, *Giardia* and *Cryptosporidium* antigen tests)

Celiac panel

Clostridium difficile toxin, if indicated

Laxative screen, if indicated

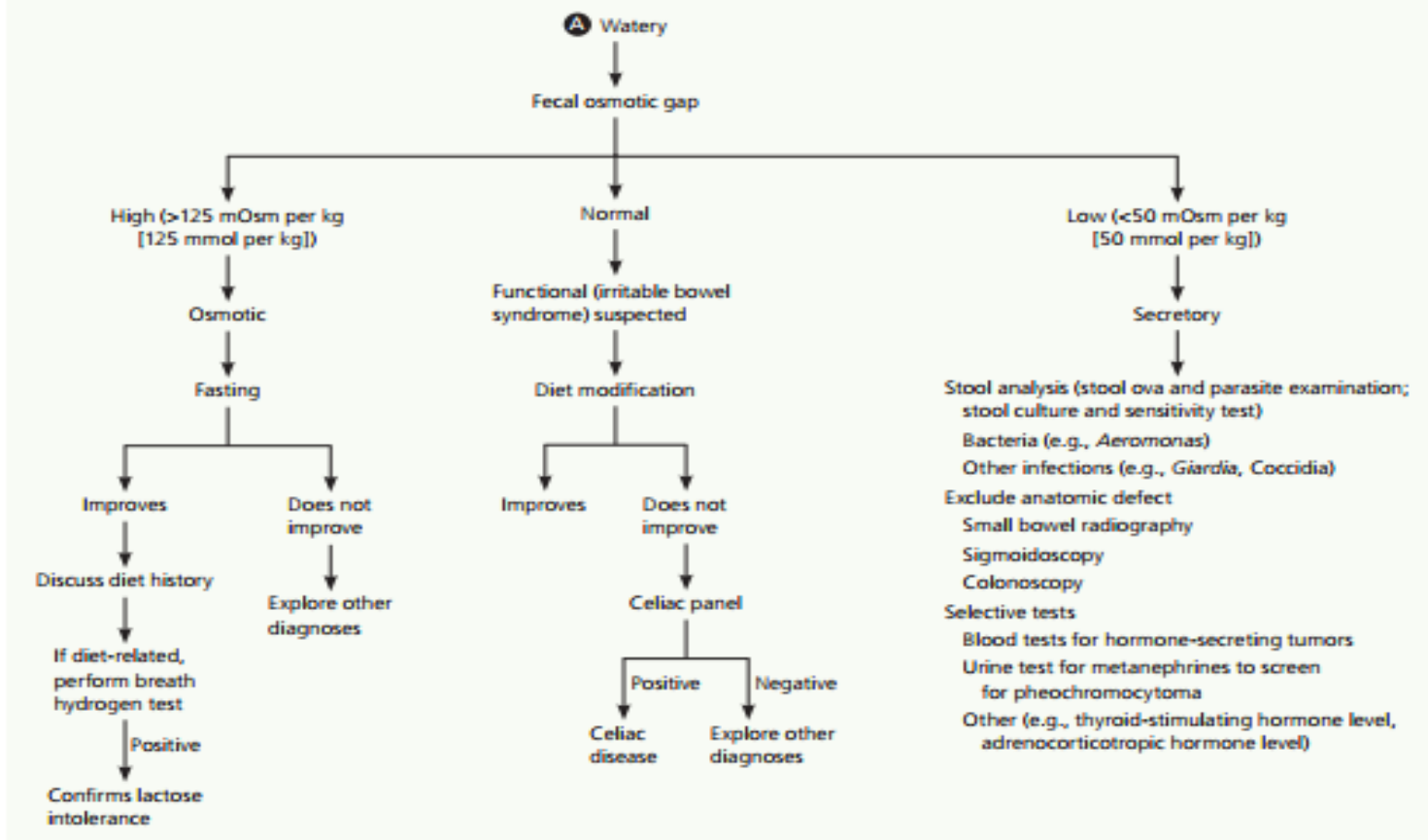
Procedure: anoscopy



(5) Fine KD, Schiller LR. AGA technical review on the evaluation and management of chronic diarrhea. *Gastroenterology*. 1999; 116(6): 1464-1486.

(6) Drossman DA, Dorn SD. Evaluation and management of chronic diarrhea: An algorithmic approach. http://www.medscape.org/viewarticle/513578_9 [login required]. Accessed July 14, 2011.

Algorithm for the diagnosis of chronic diarrhea⁽⁴⁾⁽⁶⁾



(5) Fine KD, Schiller LR. AGA technical review on the evaluation and management of chronic diarrhea. *Gastroenterology*. 1999; 116(6): 1464-1486.

(6) Drossman DA, Dorn SD. Evaluation and management of chronic diarrhea: An algorithmic approach. http://www.medscape.org/viewarticle/513578_9 [login required]. Accessed July 14, 2011.

Table 4. Common Causes of Chronic Diarrhea

<i>Diagnosis</i>	<i>Clinical findings</i>	<i>Tests</i>
Celiac disease	Chronic malabsorptive diarrhea, fatigue, iron deficiency anemia, weight loss, dermatitis herpetiformis, family history	Immunoglobulin A antiendomysium and antitissue transglutaminase antibodies most accurate; duodenal biopsy is definitive
<i>Clostridium difficile</i> infection	Often florid inflammatory diarrhea with weight loss Recent history of antibiotic use, evidence of colitis, fever May not resolve with discontinuation of antibiotics	Fecal leukocyte level; enzyme immunoassay that detects toxins A and B; positive fecal toxin assay; sigmoidoscopy demonstrating pseudomembranes
Drug-induced diarrhea	Osmotic (e.g., magnesium, phosphates, sulfates, sorbitol), hypermotility (stimulant laxatives), or malabsorption (e.g., acarbose [Precose], orlistat [Xenical])	Elimination of offending agent; always consider laxative abuse
Endocrine diarrhea	Secretory diarrhea or increased motility (hyperthyroidism)	Thyroid-stimulating hormone level, serum peptide concentrations, urinary histamine level
Giardiasis	Excess gas, steatorrhea (malabsorption)	<i>Giardia</i> fecal antigen test
Infectious enteritis or colitis (diarrhea not associated with <i>C. difficile</i>): bacterial gastroenteritis, viral gastroenteritis, amebic dysentery	Inflammatory diarrhea, nausea, vomiting, fever, abdominal pain History of travel, camping, infectious contacts, or day care attendance	Fecal leukocyte level, elevated erythrocyte sedimentation rate Cultures or stained fecal smears for specific organisms are more definitive
Inflammatory bowel disease: Crohn disease, ulcerative colitis	Bloody inflammatory diarrhea, abdominal pain, nausea, vomiting, loss of appetite, family history, eye findings (e.g., episcleritis), perianal fistulae, fever, tenesmus, rectal bleeding, weight loss	Complete blood count, fecal leukocyte level, erythrocyte sedimentation rate, fecal calprotectin level Characteristic intestinal ulcerations on colonoscopy
Irritable bowel syndrome	Stool mucus, crampy abdominal pain, altered bowel habits, watery functional diarrhea after meals, exacerbated by emotional stress or eating More common in women	All laboratory test results are normal Increased fiber intake, exercise, dietary modification should be recommended
Ischemic colitis	History of vascular disease; pain associated with eating	Colonoscopy, abdominal arteriography
Microscopic colitis	Watery, secretory diarrhea affecting older persons Nonsteroidal anti-inflammatory drug association possible No response to fasting; nocturnal symptoms	Colon biopsy

Table 3. Drugs Associated with Diarrhea

Osmotic

Citrates, phosphates, sulfates
Magnesium-containing antacids and laxatives
Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Secretory

Antiarrhythmics (e.g., quinine)
Antibiotics (e.g., amoxicillin/clavulanate [Augmentin])
Antineoplastics
Biguanides
Calcitonin
Cardiac glycosides (e.g., digitalis)
Colchicine
Nonsteroidal anti-inflammatory drugs (may contribute to microscopic colitis)
Prostaglandins (e.g., misoprostol [Cytotec])
Ticlopidine

Motility

Macrolides (e.g., erythromycin)
Metoclopramide (Reglan)
Stimulant laxatives (e.g., bisacodyl [Dulcolax], senna)

Malabsorption

Acarbose (Precose; carbohydrate malabsorption)
Aminoglycosides
Orlistat (Xenical; fat malabsorption)
Thyroid supplements
Ticlopidine

**Pseudomembranous colitis
(*Clostridium difficile*)**

Antibiotics (e.g., amoxicillin, cephalosporins, clindamycin, fluoroquinolones)
Antineoplastics
Immunosuppressants

Information from reference 2.

Definition of IBS (8)

Irritable bowel syndrome is defined as abdominal discomfort or pain associated with altered bowel habits for at least three days per month in the previous three months, with the absence of organic disease



Etiology of IBS (9)

A. Causes

B. Triggers

C. Risk factors



Etiology of IBS (9)

A. Causes

- Muscle contractions in the intestine
- Nervous system
- Inflammation in the intestines
- Severe infection
- Changes in bacteria in the gut (microflora)



Etiology of IBS (9)

B. Triggers

- Food
- Stress
- Hormones



Etiology of IBS (9)

C. Risk factors








- ✓ Young
- ✓ Female
- ✓ Family history of IBS
- ✓ Mental health problem



Classifications of IBS ⁽¹⁰⁾

1. IBS-C : >25% of bowel movements with Bristol Stool Scale Types 1–2 and <25% with Types 6–7.
2. IBS-D : >25% of bowel movements with Bristol Stool Scale Types 6–7 and <25% with Types 1–2.
3. IBS-M: >25% of bowel movements with Bristol Stool Scale Types 1–2 and >25% with Types 6–7.
4. IBS-U: Meets diagnostic criteria for IBS but bowel habits not accurately categorized in any of the above subtypes.

Bristol Stool Form Scale

Type 1		Separate, hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
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Type 7		Watery, no solid pieces Entirely liquid

Case

Latifa, 41 years old **smoker** non-alcoholic Saudi female complaining of lower abdominal pain for 1 week

The background features several thick, diagonal brush strokes in shades of purple and pink. One stroke is on the left, another on the top right, and a third on the bottom right. The text is centered in a dark blue, serif font.

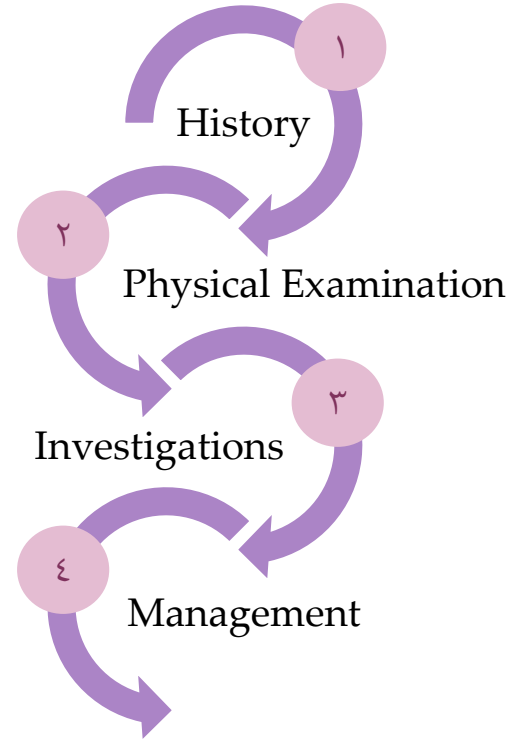
What Is Your Differential Diagnosis ?

Differentials

- Crohn's disease
 - Ulcerative colitis
 - Irritable bowel syndrome IBS
 - Celiac disease
 - Lactose Intolerance
 - Diverticulitis
 - Colorectal cancer
 - Renal colic \ Pyelonephritis
- Inflammatory bowel disease (IBD)
- Gynecological(Ectopic , torsion ,PID)
 - appendicitis

Approach

“



History (11)(12)

(11) Longstreth GF, Thompson WG, Chey WD, Houghton LA, Mearin F, Spiller RC. Functional bowel disorders [published correction appears in *Gastroenterology*. 2006;131(2):688]. *Gastroenterology*. 2006;130(5):1480-1491.

۳۱ (12) Ford AC, Talley NJ, Veldhuyzen van Zanten SJ, Vakil NB, Simel DL, Moayyedi P. Will the history and physical examination help establish that irritable bowel syndrome is causing this patient's lower gastrointestinal tract symptoms? [published correction appears in *JAMA*. 2009;301(15):1544]. *JAMA*. 2008;300(15):1793-1805.

History of Presenting Illness

✓ SOCRATES

✓ Associated Symptoms:

- Abdominal pain, bloating\distention
- Altered bowel habit –constipation / diarrhoea / Hematochezia / melena / mucus in stool
- Tenesmus, change in stool color or character, pain in defecation
- Change of urine color, jaundice, Pruritus
- Hematemesis, heartburn or acid regurgitation
- Dysphagia, odynophagia, water brash
- Urgency,frequency,hematuria
- Abnormal vaginal bleeding\discharge, irregular\absent menstrual cycle.

✓ Constitutional Symptoms



Alarm symptoms⁽⁸⁾:

Patients presenting with IBS symptoms should be examined for the following “RED FLAG”:

- ✓ Anemia
- ✓ Rectal bleeding
- ✓ Nocturnal symptoms
- ✓ Weight loss
- ✓ Recent antibiotic use
- ✓ Onset after 50 years of age
- ✓ Family history of colorectal cancer, inflammatory bowel disease, or celiac disease

Past Medical History

- ✓ Past Medical History
- ✓ Medications
- ✓ Allergy
- ✓ Vaccinations
- ✓ Blood transfusion
- ✓ Surgical history
- ✓ Family History
- ✓ Social History
- ✓ Obstetric and gynecological history
- ✓ Psychological History
- ✓ Systemic review

Physical Examination (12)

(12) Ford AC, Talley NJ, Veldhuyzen van Zanten SJ, Vakil NB, Simel DL, Moayyedi P. Will the history and physical examination help establish that irritable bowel syndrome is causing this patient's lower gastrointestinal tract symptoms? [published correction appears in JAMA. 2009;301(15):1544]. JAMA. 2008;300(15):1793-1805.

Vitals



“

- Temperature
- Heart Rate
- Respiratory rate
- Blood pressure
- SpO₂
- Weight
- Height
- BMI

General examination

“

- Alert and oriented to time and place, conscious, distress.
- Vitally stable or not .
- Body built, wasting or asymmetry .

Inspection

- “ - Hands & Arms
- Eyes
- Mouth

Leukonychia



Koilonychia



Kayser-Fleischer rings



Angular Stomatitis:



Glossitis:



Chest



“

- Inspection
- Lymph nodes

Abdomen

“

- Inspection
- Palpation
- Percussion
- Auscultation

Cullen's sign



Grey Turner's Sign



Lower Extremities

“

- Pitting edema
- Ulcers
- Clubbing
- Capillary refill.

To complete the examination, I would like to perform a per rectal examination .



The most important diagnosis you have to rule it out is??

COLON CANCER

Diagnostic Criteria for IBS

1. Rome IV Criteria ⁽¹⁰⁾

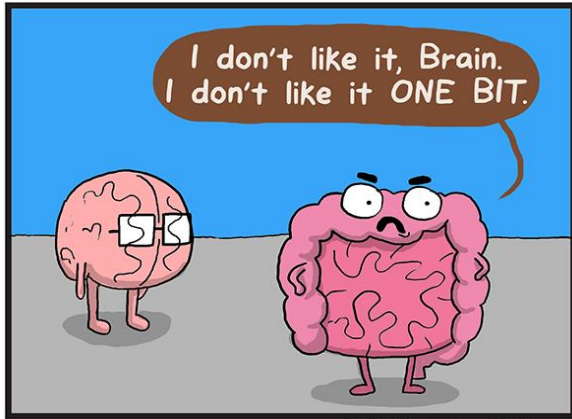
- When to use? Patients being evaluated for possible IBS
- IBS is defined as recurrent abdominal pain at least 1 day per week in the last 3 months on average, associated with ≥ 2 of the criteria below:
 - ✓ Related to defecation (either increasing or improving pain)
 - ✓ Associated with a change in stool frequency
 - ✓ Associated with a change in stool form (appearance)



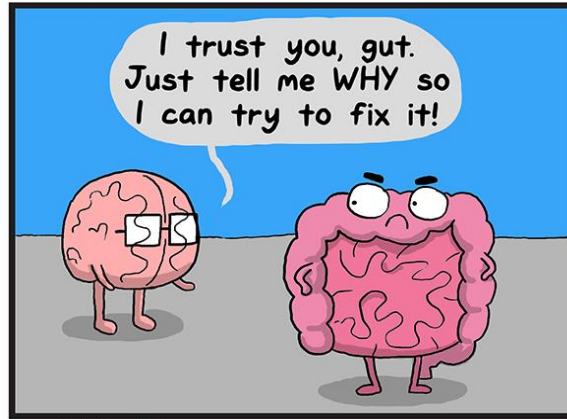
2. Other criteria: Rome III ⁽⁸⁾, Manning Criteria ⁽¹³⁾

Investigations

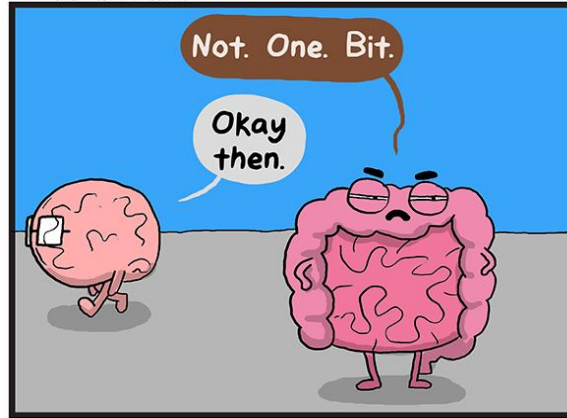
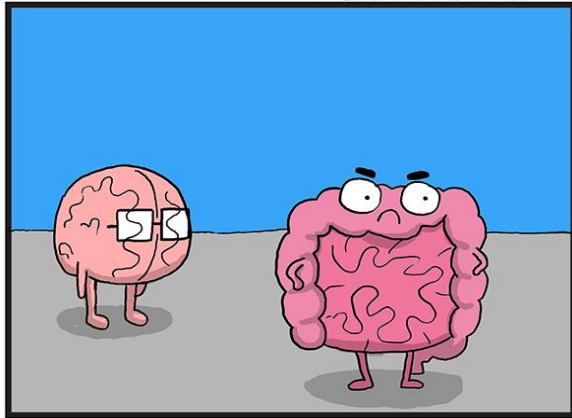




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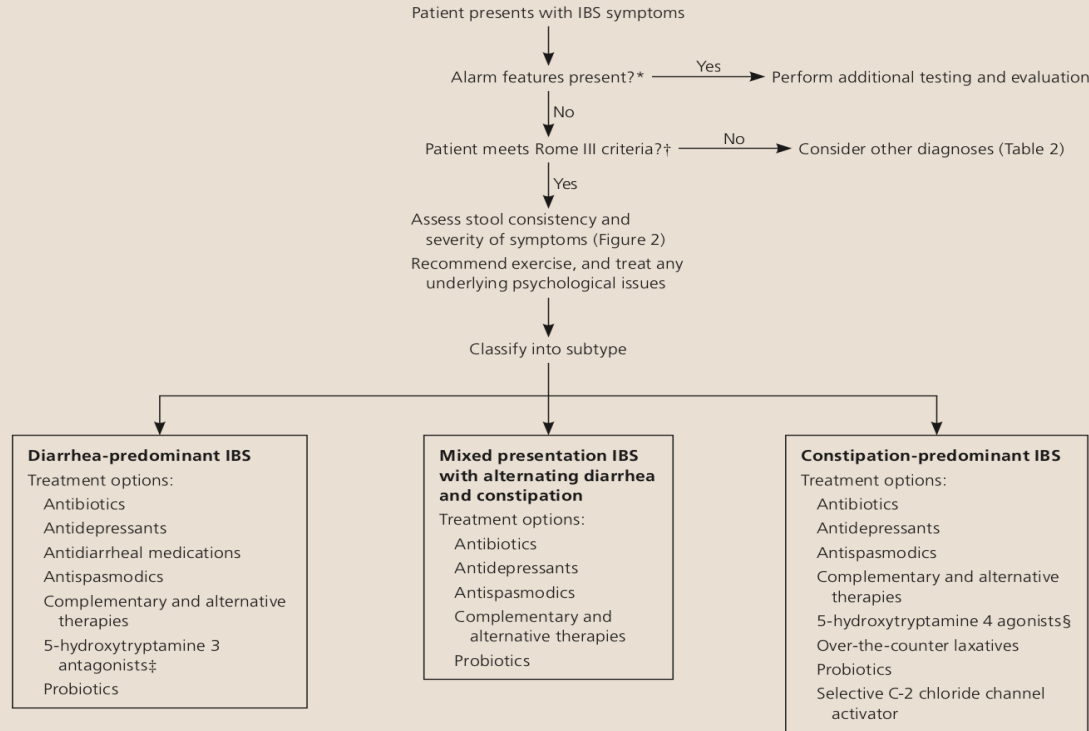


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- It is a clinical diagnosis, and a **diagnosis of exclusion**.

CBC	<ul style="list-style-type: none"> • Screen for anemia, inflammation, and infection • Normal; anemia suggests malabsorption
ESR, CRP	<ul style="list-style-type: none"> • Nonspecific screening tests for inflammation
Thyroid function studies	<ul style="list-style-type: none"> • Screen for hyperthyroidism or hypothyroidism
Fecal Occult & Stool Sample	<ul style="list-style-type: none"> • Normal; WBCs in stool or presence of parasites suggest inflammation or infection
H. pylori Culture	<ul style="list-style-type: none"> • If suspecting peptic ulcer disease
Anti-endomysial antibodies	<ul style="list-style-type: none"> • Negative; positive in celiac disease
Anti-tTG, Liver enzyme (ALT & AST)	<ul style="list-style-type: none"> • Negative; raised in celiac disease (fatty liver)
Abdominal x-imaging	<ul style="list-style-type: none"> • Normal; abnormal bowel pattern suggests obstruction
Hydrogen breath test	<ul style="list-style-type: none"> • Normal; abnormal if bacterial overgrowth or lactase deficiency (lactose intolerance)
Colonoscopy	<ul style="list-style-type: none"> • Alarm signs, diagnostic study of choice to rule out malignancy or other serious conditions • Normal; mucosal inflammation or ulceration suggests inflammatory bowel disease

Evaluation and Treatment of Suspected IBS



*—Alarm features include anemia; rectal bleeding; nocturnal symptoms; weight loss; recent antibiotic use; onset after 50 years of age; and family history of colorectal cancer, inflammatory bowel disease, or celiac disease.

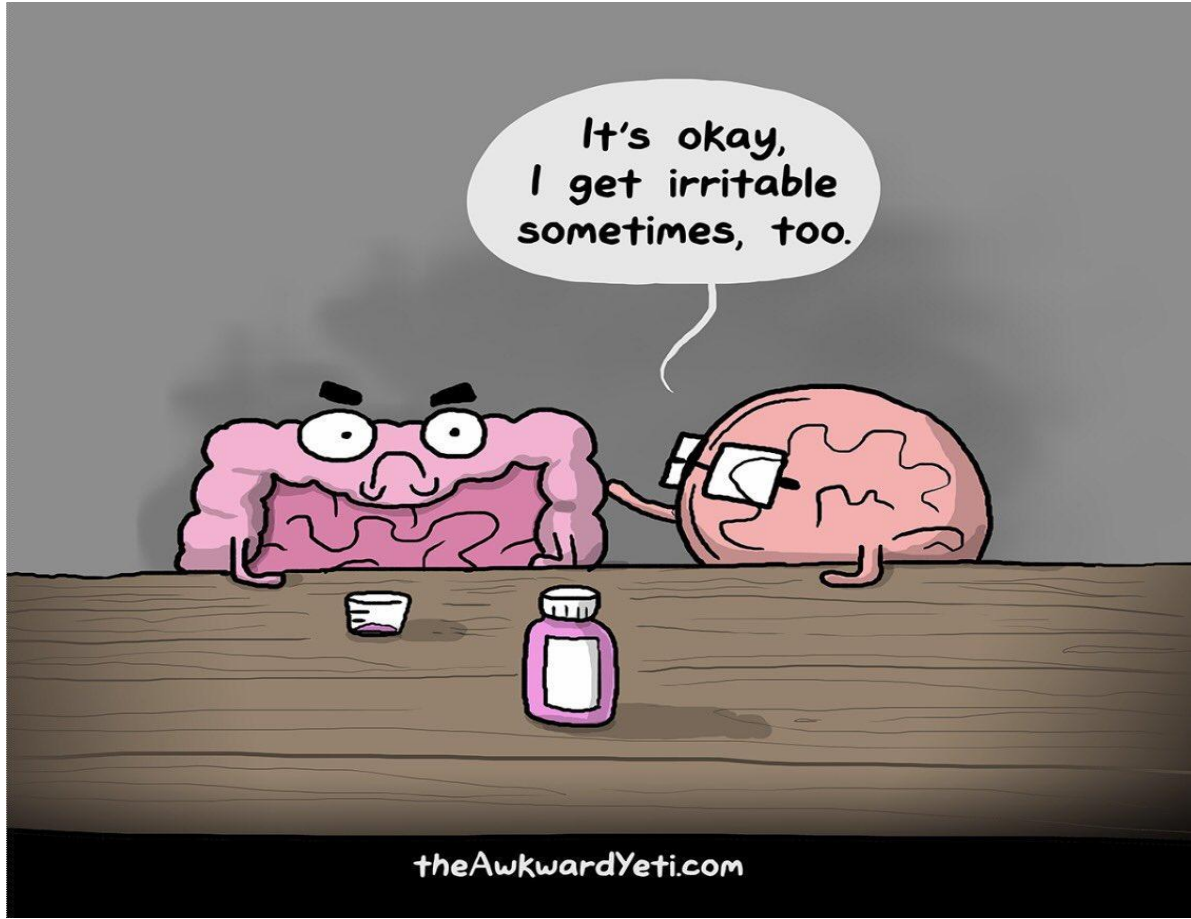
†—Rome III criteria are improvement with defecation, onset associated with a change in frequency of stools, and onset associated with a change in the form (appearance) of stools; criteria must have been met for the previous three months, with symptom onset at least six months before diagnosis.

‡—Restricted use in the United States.

§—Available only for emergency use through the U.S. Food and Drug Administration.

Figure 1. Algorithm for the evaluation and treatment of patients with suspected irritable bowel syndrome (IBS).

Management (8)



Management

- ❖ Goals of treatment: symptom relief and improved quality of life.
- ❖ Treating IBS can be particularly challenging because symptoms often are recurrent and resistant to therapy.
- ❖ A positive patient-physician interaction is associated with fewer return visits for IBS and is a key component in the treatment of these patients.




Management



✓ Non – Pharmacological Management

- **First line** of treatment is patient education and reassurance
- In patients with mild and intermittent symptoms that do not impair quality of life, we initially recommend lifestyle and dietary modification alone.

✓ Pharmacological Management

- **Second line** of treatment is managing the symptoms.
 - Mild to moderate symptoms who fail to respond to initial management and in patients with moderate to severe symptoms that affect quality of life, we suggest pharmacological therapy as adjunctive treatment
- 

Non – Pharmacological Management



- ✓ **Patient education** IBS is a benign condition, chronic continuous or remittent GI illness. The cause is incompletely understood but biopsychosocial factors are thought to play an important role, along with luminal factors, such as diet and the gut microbiota.
- ✓ **No specific treatment** is necessary, we manage the symptoms as indicated.
- ✓ **Advise** to change lifestyle, quite smoking, start a healthy diet, avoid foods that trigger symptoms, drinking a lot of fluids and do daily physical activities at least 30 minutes & get enough sleep, stress management to maintain her health issues.
- ✓ **Psychological support**

Non – Pharmacological Management

=> Dietary and Lifestyle Management:

- **Lifestyle advice:**
 - Relaxation techniques such as meditation.
 - Physical activities and exercise => evidence rating: B* (15)
- **Dietary advice :**
 - Fibres? (16)(17)
 - Restrict tea and coffee to 3 cups per day.
 - Have regular meals and take time to eat.
 - Avoid missing meals or leaving long gaps between eating.
 - Drink at least 8 cups of fluid per day



*B = inconsistent or limited-quality patient-oriented evidence

Pharmacological Management

- ✓ Decisions about pharmacological management should be based on the nature and severity of symptoms.
- ✓ The choice of single or combination medication is determined by the predominant symptom.
- ✓ Consider an overlap between sub-groups.



First-line pharmacological treatment (8)



Category	Examples	IBS Subtype	Comments
Antispasmodics ⁽¹⁶⁾⁽¹⁷⁾	<ul style="list-style-type: none"> Hyoscyamine (Levsin) Dicyclomine (Bentyl) 	All types	<ul style="list-style-type: none"> It's found to be very effective for abdominal pain or bloating. Side effects as dry mouth, dizziness, blurred vision. Evidence rating: B⁽¹⁶⁾⁽¹⁷⁾
Antidiarrheals ⁽¹⁸⁾	<ul style="list-style-type: none"> Loperamide (Imodium) 	Diarrhea predominant	<ul style="list-style-type: none"> It decreases intestinal transit and enhances intestinal water and ion absorption. It should be the first choice of antimotility agent for diarrhea in people with IBS. It is very effective at decreasing stool frequency & increasing its consistency. Didn't improve abdominal pain Increased nocturnal pain
Laxative ⁽¹⁴⁾⁽¹⁹⁾	<ul style="list-style-type: none"> Polyethylene glycol (Miralax) 	Constipation predominant	<ul style="list-style-type: none"> Studies showed that it improved stool frequency but didn't alleviate abdominal pain.

Second-line pharmacological treatment (8)

Category	Examples	IBS Subtype	Comments
Selective C-2 Chloride Channel Activators ⁽¹⁴⁾⁽²⁰⁾	<ul style="list-style-type: none"> Lubiprostone (Amitiza) 	Constipation predominant	<ul style="list-style-type: none"> It induce intestinal secretion & relive constipation. Side effects: diarrhea & nausea.
Antibiotics ⁽²¹⁾⁽²²⁾	<ul style="list-style-type: none"> Rifaximin (Xifaxan) 	<ul style="list-style-type: none"> Diarrhea predominant Mixed type 	<ul style="list-style-type: none"> It improve abdominal pain, bloating & stool consistency. Evidence rating: B⁽²¹⁾
	<ul style="list-style-type: none"> Neomycin 	Constipation predominant	<ul style="list-style-type: none"> In a small RCT study they found that it could help in constipation, where it suggest that alteration of gut microflora may have a role in the etiology of IBS. Evidence rating: B⁽²²⁾
Probiotics ⁽²³⁾⁽²⁴⁾	<ul style="list-style-type: none"> Lactobacillus Bifidobacterium Streptococcus 	All types	<ul style="list-style-type: none"> It help in decrease pain & IBS symptoms. Evidence rating: B⁽²³⁾⁽²⁴⁾
Antidepressants ⁽¹⁶⁾⁽²⁵⁾	<ul style="list-style-type: none"> TCA_s, SSRI_s 	All types	<ul style="list-style-type: none"> Statistically significant benefit in improving abdominal pain & symptoms was shown. Evidence rating: B⁽¹⁶⁾⁽²⁵⁾
5-hydroxytryptamine 3 Antagonists ⁽²⁶⁾	(Associated with uncommon but serious adverse events so there are restrictions for its use)	Women with sever diarrhea predominant	<ul style="list-style-type: none"> It reduce IBS symptoms Side effects: ischemic colitis, constipation and death.
5-hydroxytryptamine 4 Agonists ⁽²⁷⁾		Constipation predominant	<ul style="list-style-type: none"> It improve bowel movement. Side effects: increased risk of myocardial infarction, unstable angina and stroke. According to FDA, used only in emergency.



Complementary and Alternative Therapies (8)

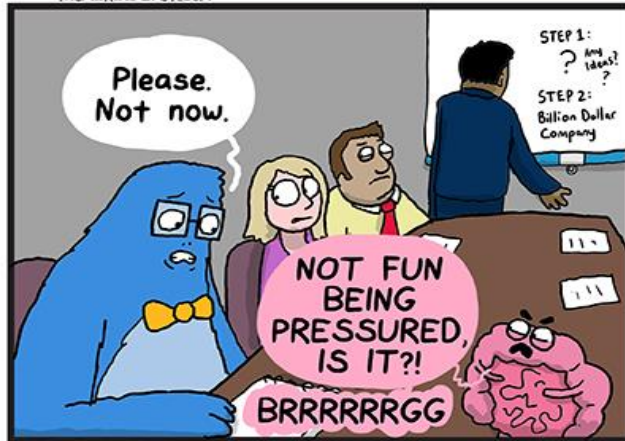
Treatment	Comments
 Psychological Therapy ⁽²⁵⁾⁽²⁸⁾	<ul style="list-style-type: none">○ Psychological treatments including cognitive behavior therapy, interpersonal psychotherapy, and relaxation and stress management are <u>effective in improving IBS symptoms compared with usual care.</u>○ evidence rating: B ⁽²⁵⁾⁽²⁸⁾
Hypnotherapy ⁽²⁹⁾	<ul style="list-style-type: none">● A review of four trials involving 147 patients that compared hypnotherapy with psychotherapy and placebo concluded that the <u>quality of the RCTs was inadequate to determine the effectiveness of hypnotherapy in IBS.</u>
 Acupuncture ⁽³⁰⁾	<ul style="list-style-type: none">● A Cochrane review of six trials involving 109 patients <u>did not show a significant difference between acupuncture and sham therapy.</u>
Herbal Therapies ⁽³¹⁾	<ul style="list-style-type: none">● A Cochrane review of 75 RCTs involving 7,957 patients concluded that herbal therapies may <u>improve the symptoms of IBS; however, many of these trials had inadequate methodology and a small sample size.</u>
Peppermint oil ⁽¹⁷⁾	<ul style="list-style-type: none">● A systematic review of four RCTs involving 392 patients showed that <u>peppermint oil was more effective than placebo at reducing IBS symptoms</u>● evidence rating: B ⁽¹⁷⁾



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Summary

(8)

Table 3. Summary of Therapies for IBS

Category	Examples	Type of IBS*	Comments
Exercise	Vigorous exercise three to five times per week	All types	NNT = 7.4 to prevent a greater than 50-point increase on the IBS Severity Score over 12 weeks ¹⁸
Fiber	Psyllium husk	All types	Fiber is ineffective ¹⁹
Over-the-counter laxatives	Polyethylene glycol (Miralax)	Constipation-predominant	Improves stool frequency, but not abdominal pain; scant evidence of effectiveness ²⁰
Antidiarrheals	Loperamide (Imodium)	Diarrhea-predominant	Effectively decreases stool frequency and increases stool consistency ²¹ Diphenoxylate/atropine (Lomotil) has not been studied for IBS
Probiotics	<i>Lactobacillus</i> , <i>Bifidobacterium</i> , <i>Streptococcus</i>	All types	NNT = 4 to prevent worsening global IBS symptoms ^{22,23}
Antibiotics	Rifaximin (Xifaxan) Neomycin	Diarrhea-predominant, mixed presentation Constipation-predominant	NNT = 11 to prevent worsening global IBS symptoms over four weeks Improves constipation and bloating ^{24,25}
Antispasmodics	Hyoscyamine (Levsin), dicyclomine (Bentyl)	All types	NNT = 7 for improvement of abdominal pain† NNT = 5 for improvement of global assessment NNT = 3 for improvement in symptom score ⁸
Selective C-2 chloride channel activators	Lubiprostone (Amitiza)	Constipation-predominant	Improves global IBS symptoms ²⁶
Antidepressants	SSRIs: citalopram (Celexa), fluoxetine (Prozac), paroxetine (Paxil) TCAs: amitriptyline, desipramine (Norpramin), doxepin, imipramine (Tofranil), trimipramine (Surmontil)	All types	NNT = 5 for improvement in abdominal pain NNT = 4 for improvement in global assessment NNT = 4 for improvement in symptom score ⁹
Complementary and alternative therapies	Psychological treatments, hypnotherapy, acupuncture, herbal therapies, peppermint oil	All types	NNT = 4 to prevent persistent IBS symptoms (psychological treatments)† Quality of included trials was inadequate to draw conclusions about hypnotherapy or acupuncture Some herbal therapies may be effective for treating IBS, but trials have inadequate methodology and small sample sizes NNT = 2.5 to improve IBS symptoms (peppermint oil)† ²⁷⁻³²
5-HT ₂ antagonists	Alosetron (Lotronex)	Severe diarrhea-predominant (women only)	Improves global IBS symptoms and abdominal pain NNT = 7 to improve symptoms† Serious adverse events including ischemic colitis, constipation, and death; restricted use in the United States ³³
5-HT ₄ agonists	Tegaserod (Zelnorm)	Constipation-predominant	NNT = 17 to improve constipation and stool frequency† Serious adverse events including myocardial infarction, unstable angina, and stroke Available only for emergency use through the U.S. Food and Drug Administration ³⁴

5-HT = 5-hydroxytryptamine; IBS = irritable bowel syndrome; NNT = number needed to treat; SSRI = selective serotonin reuptake inhibitor; TCA = tricyclic antidepressant.

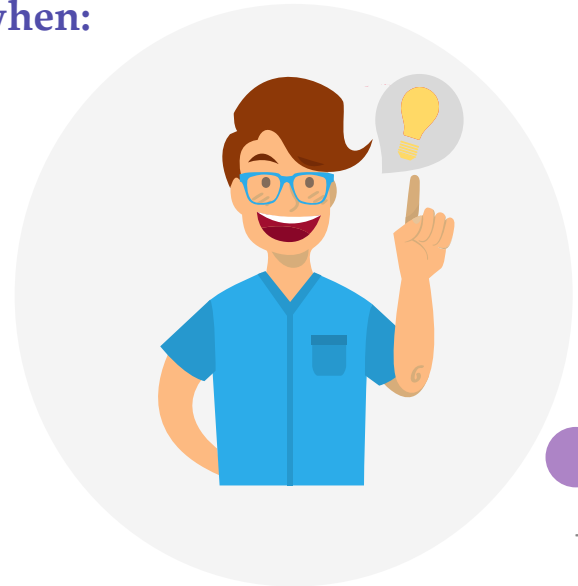
*—Types include diarrhea-predominant, constipation-predominant, and mixed presentation with alternating diarrhea and constipation.

†—Duration not specified.

Information from references 18 through 34.

Follow up

- Set appropriate follow-up to reassess patient health status and compliance.
- **Inform the physician \ seek urgent medical care when:**
 - ✓ Red flag symptoms arise.
 - ✓ Any change in stool color \ appearance.
 - ✓ Any medication side effects.





Referral criteria (8)

Indications For Referral :

- ★ Unexplained weight loss
- ★ Unexplained iron deficiency anemia
- ★ Rectal bleeding
- ★ Family history of colon cancer
- ★ Nocturnal symptoms
- ★ Abnormality on examination or investigation
- ★ Constant diarrhea, distension or pain
- ★ Uncertainty of diagnosis
- ★ Failure of primary care management

IBS Prognosis (32)

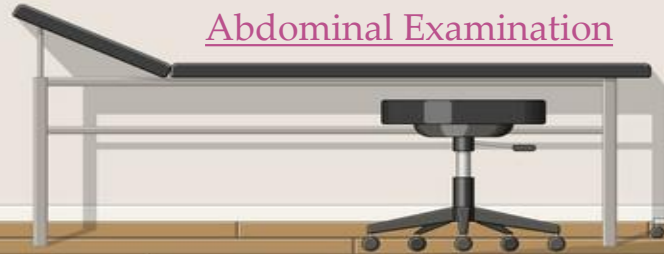
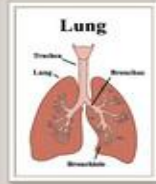
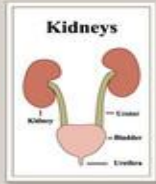
IBS is associated with a **good prognosis** and the diagnosis is unlikely to be changed to that of an organic disease during follow-up.





Role play





Abdominal Examination



Quiz

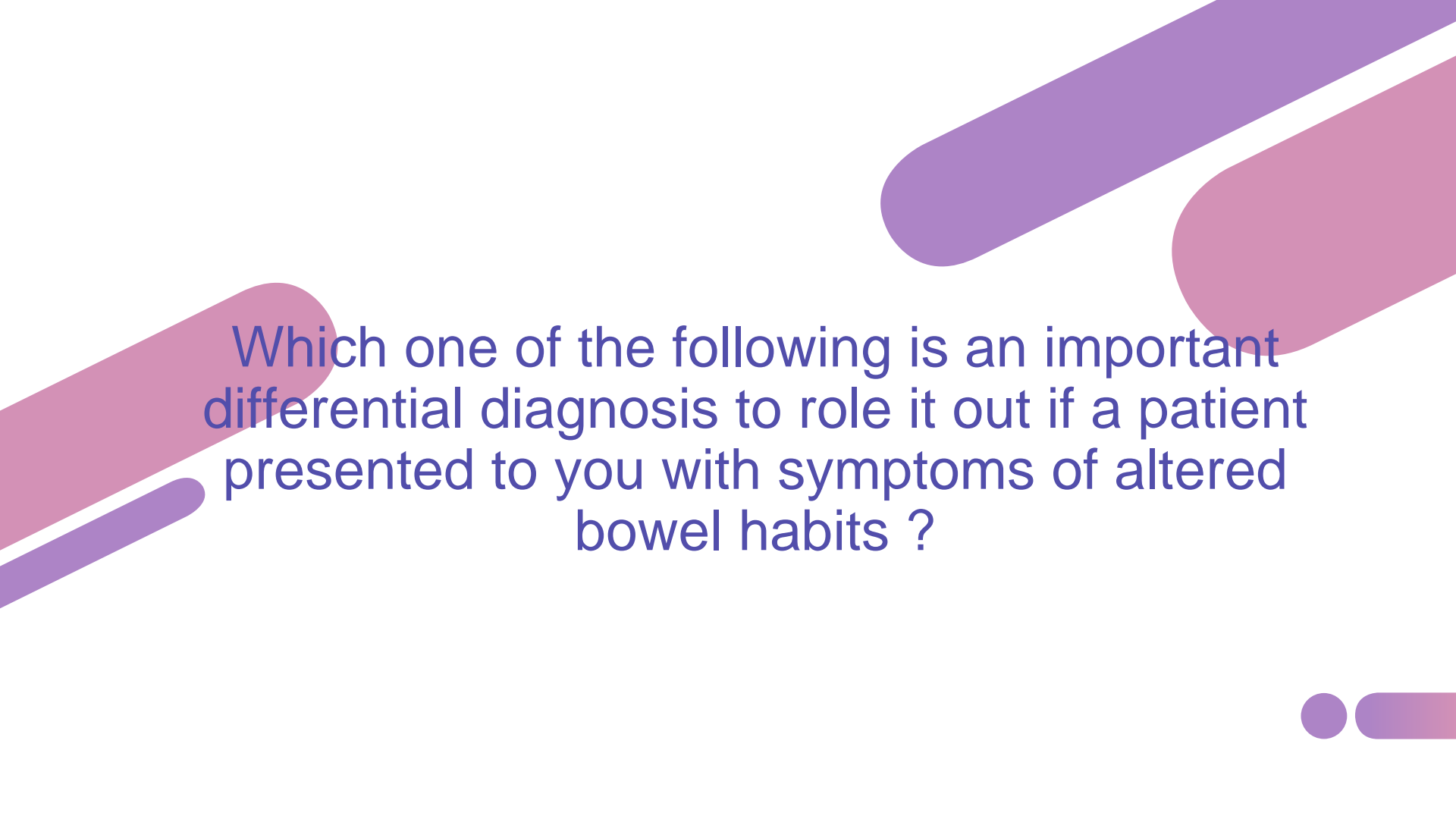


The background features several thick, diagonal brushstrokes in shades of purple and pink. One stroke is a light pink, while others are in various tones of purple, from light lavender to a darker, muted purple. The strokes are positioned around the central text, with some overlapping the edges of the text area.

All of the following could be a cause of
Secondary constipation except?

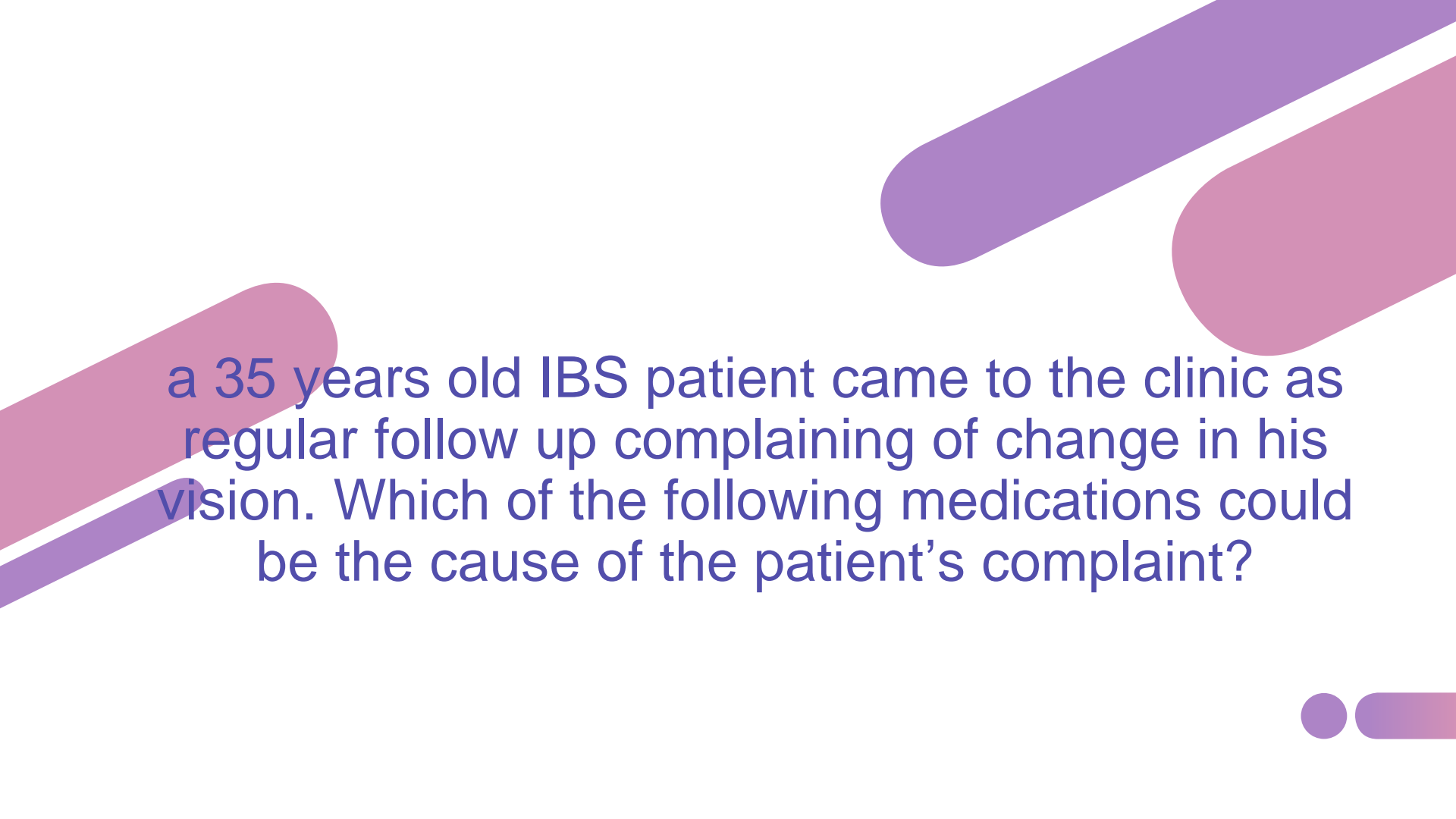
The background features several thick, diagonal brushstrokes in shades of purple and pink. One large pink stroke is on the left, and two purple strokes are on the right. In the bottom right corner, there is a small purple circle and a horizontal purple bar.

Based on the role of plasma serotonin level in IBS patients choose the Correct answer the serotonin level:

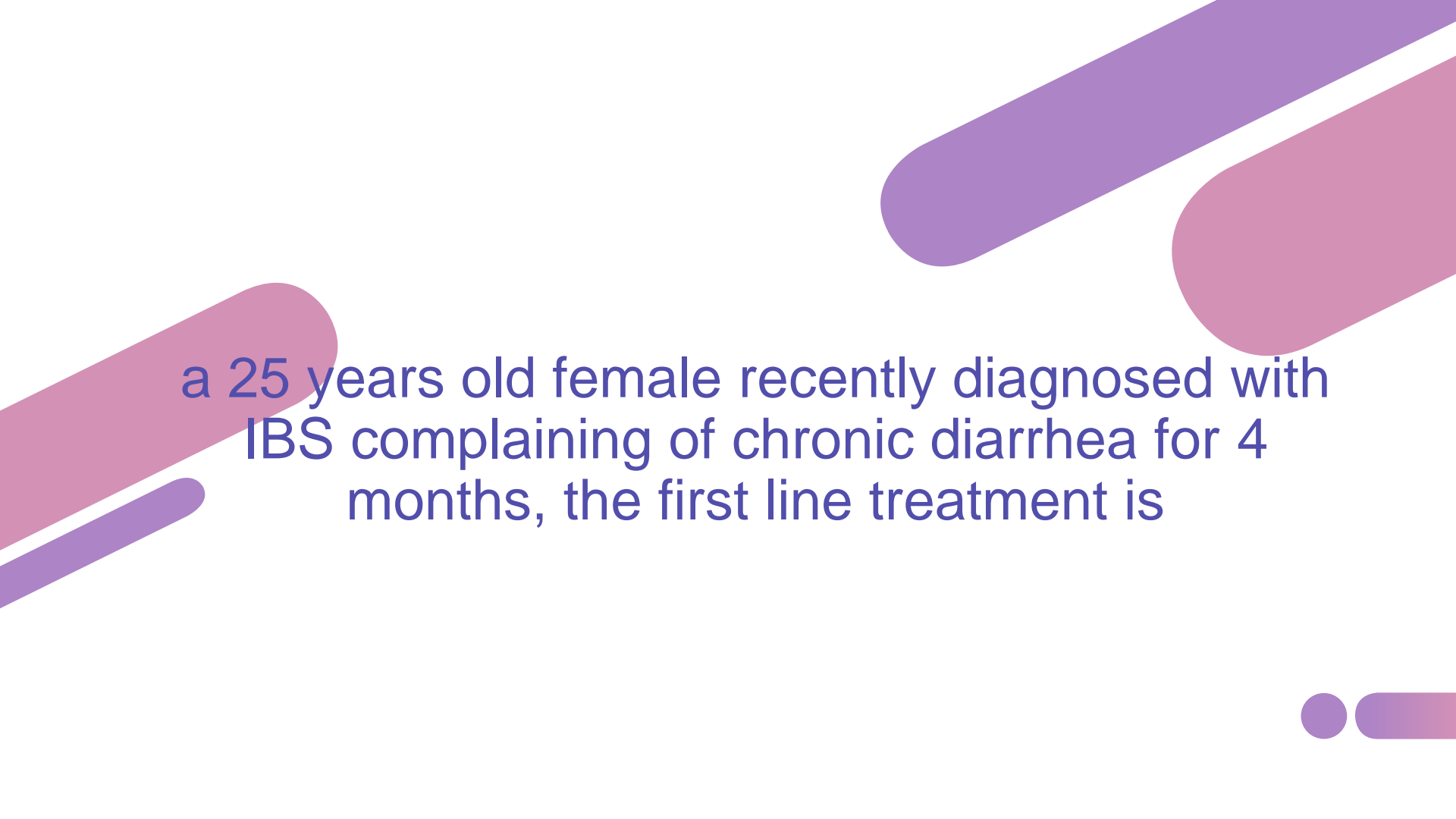


Which one of the following is an important differential diagnosis to rule it out if a patient presented to you with symptoms of altered bowel habits ?





a 35 years old IBS patient came to the clinic as regular follow up complaining of change in his vision. Which of the following medications could be the cause of the patient's complaint?



a 25 years old female recently diagnosed with IBS complaining of chronic diarrhea for 4 months, the first line treatment is



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THANK YOU!

Do You Have Any
Question?

