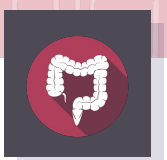


Change in bowel habits

Objectives

1. *Define constipation and diarrhea.*

2. *Discuss the definition, etiology and classification of irritable bowel syndrome (IBS).*

3. *Explain how to diagnose IBS.*

4. *List the alarm symptoms and differential diagnosis.*

5. *Provide a comprehensive management plan and follow up for patients with IBS.*

6. *Recognize when to refer to specialist.*

7. *Demonstrate history taking and physical examination for patients presented with history suggestive of IBS.*

Diarrhea

Diarrhea, defined as decrease in stool consistency and possibly more frequent bowel movements. When it last for more than 4 weeks then it is called chronic diarrhea.

Constipation

Constipation is generally described as having three or fewer bowel movements per week, or difficult passage of stools. It is associated with symptoms of lower abdominal discomfort, distension, or bloating.

Irritable bowel syndrome (IBS)

What is IBS ?

It is a life-long (chronic) functional "not structural" disorder of the digestive system that affect the large intestine. It is characterized by the presence of abdominal pain or discomfort with altered bowel habits for at least 6 months, in the absence of a specific organic pathology.

Prevalence

Prevalence in the general population is estimated to be between 10 % and 20 %.

IBS most often affects people between the ages of 20 and 30 years and is twice as common in women as in men.

Recent trends indicate that there is also a significant prevalence of IBS in older people.

1. *abdominal pain or discomfort (+/- relieved by defecation)*
2. *altered bowel frequency (Diarrhea, Constipation)*
3. *altered stool passage (straining, urgency, incomplete evacuation)*
4. *abdominal bloating (more common in women than men), distension, tension or hardness*
5. *symptoms made worse by eating*
6. *passage of mucus.*

Some symptoms are also common in people with IBS like: Lethargy, nausea, backache and bladder symptoms.

Clinical presentation

Triggers

Stress

aggravate symptoms, it doesn't cause them.

Foods

wheat, dairy products, fruits, beans, cabbage, milk and carbonated drinks.

Hormone

Many women find that symptoms are worse during or around their menstrual periods.

Risk factors

Estrogen therapy before or after menopause also is a risk factor for IBS.

- *Disturbed colonic motility.*
- *Nervous system (Gut hypersensitivity).*
- *Inflammation in the intestines :*

Some IBS patients have an increased number of immune-system cells in their intestines. This immune-system response is associated with pain and diarrhea.

- *Severe infection :*

IBS can develop after a severe (gastroenteritis) caused by bacteria or a virus.

- *Microbial imbalance in the gut (dysbiosis).*
- *Changes in bacteria in the gut (microflora) :*

Research indicates that microflora in people with IBS might differ from microflora in healthy people.

The precise cause of IBS isn't known, but Factors that appear to play a role :

Classifying patients with IBS into specific subtypes based on predominant bowel habits is useful, as it helps focus treatment on the predominant, and often, the most bothersome symptom.

IBS is classified into four subtypes:

1. *IBS with constipation (IBS-C)*
2. *IBS with diarrhoea (IBS-D)*
3. *Mixed IBS (IBS-M)*
4. *Unspecified IBS (IBS-U)*

Classification


IBS-C
Constipation
hard or lumpy stools > 25%
loose or watery stools < 25%
IBS-D
Diarrhea
hard or lumpy stools < 25%
loose or watery stools > 25%
IBS-M
Constipation and Diarrhea
hard or lumpy stools < 25%
loose or watery stools < 25%
IBS-U
Constipation and Diarrhea
hard or lumpy stools > 25%
loose or watery stools > 25%

How to diagnose ?

By History and Investigations!

We have 2 criteria:

1. Rome IV criteria (2016)
2. *NICE Guideline (2017)*

Rome IV criteria (2016)

Recurrent abdominal pain, on average, at least 1 day/week in the last 3 months, associated with two or more of the following criteria:

- ★ Related to **defecation.**
- ★ Associated with a change in **frequency of stool.**
- ★ Associated with a change in form **(appearance) of stool.**

Criteria fulfilled for the last 3 months with **symptom onset at least 6 months** before diagnosis.

Rome IV criteria (2016)

Supporting symptoms

1. Altered stool **frequency.**
2. Altered stool **form.**
3. Altered stool **passage** (straining and/or urgency).
4. **Mucorrhea.**
5. Abdominal **bloating** or subjective **distention.**

SUBTYPE	STOOL TYPE 1 & 2	STOOL TYPE 6 & 7
IBS with predominant constipation	More than 25%	Less than 25%
IBS with predominant diarrhea	Less than 25%	More than 25%
IBS with mixed bowel habits	More than 25%	More than 25%

IBS Unclassified: Patient who meets diagnostic criteria for IBS but whose bowel habits cannot be accurately categorized into one of the three subtypes above.

Source: Lacy BE, et al. Bowel Disorders. Gastroenterology. 2016;150:1393-1407.

IBS

IrritableBowelSyndrome.net // IBS subtypes

Rome IV criteria (2016)

- The usefulness of these subtypes is debatable. Notably, within 1 year, **75%** of patients change subtypes, and 29% switch between constipation-predominant IBS and diarrhea-predominant IBS.
- The Rome IV criteria differ from the Rome III criteria in **basing bowel habits on stool forms solely during days with abnormal bowel movements rather than on the total number of bowel movements.**

Rome IV criteria (2016)

“

NICE Guideline (2017)

Abdominal pain or discomfort for **at least 6 months** that is either:

- ★ Relieved by defecation.
- ★ Associated with altered bowel habit (frequency or stool form).

This should be accompanied by **at least 2 of the following 4 symptoms:**

1. Altered **stool passage** (straining, urgency, incomplete evacuation)
2. Abdominal **bloating**, distension, tension or hardness.
3. Symptoms made **worse by eating**
4. +/- Specific foods passage of **mucus.**

NICE Guideline (2017)

★ **Other features:**

1. Lethargy.
2. Nausea.
3. Backache.
4. Bladder symptoms.

★ All these symptoms are common in people with IBS, and may be used to support the diagnosis.

NICE Guideline (2017)

1. *Initial assessment for IBS:*

If the persons had any of the following symptoms of IBS for **at least 6 months:**

1. Abdominal pain or discomfort.
2. Bloating.
3. Change In bowel habit.

2. *Exclude Alarm symptoms*

(Red Flags) 🚩

1. Signs and **symptoms of cancer.**
2. **Inflammatory markers** for inflammatory bowel disease.

Diagnostic test (investigations)

In people who meet the IBS diagnostic criteria, the following tests should be undertaken to **exclude other diagnoses:**

- full blood count (FBC).
- erythrocyte sedimentation rate (ESR) or plasma viscosity.
- c-reactive protein (CRP).
- antibody testing for coeliac disease (endomysial antibodies [EMA] or tissue transglutaminase [TTG]).

In IBS, the results will be:

- normal baseline tests (FBC, CRP, coeliac serology +/- faecal calprotectin), If normal but IBD still suspected check faecal calprotectin.
- Raised ESR / CRP (if only mild increase check faecal calprotectin; NB obesity gives mild ⬆)

The following tests are not necessary to confirm diagnosis in people who meet the IBS diagnostic criteria:

- ultrasound.
- rigid/flexible sigmoidoscopy.
- colonoscopy; barium enema.
- thyroid function test.
- faecal ova and parasite test.
- faecal occult blood.
- hydrogen breath test (for lactose intolerance and bacterial overgrowth).

The American College of Gastroenterologists does not recommend laboratory testing or diagnostic imaging in patients younger than 50 years with typical IBS symptoms and without the following “alarm features” :

A. Weight loss.
B. Iron deficiency anemia.
C. Family history of certain organic GI illnesses (eg, inflammatory bowel disease, celiac sprue, colorectal cancer).

Blood studies

complete blood cell (CBC) count with differential:

to screen for anemia, inflammation, and infection.

comprehensive metabolic panel:

to evaluate for metabolic disorders and to rule out dehydration/electrolyte abnormalities in patients with diarrhea.

Stool examinations

Microbiologic studies to consider include the following stool examinations:

- Ova and parasites (consider obtaining specimens for Giardia antigen as well).
- Enteric pathogens.
- Leukocytes.
- Clostridium difficile toxin.

History-Specific Examinations

Hydrogen breath test:

to exclude bacterial overgrowth, may be considered in patients with diarrhea to screen for lactose and/or fructose intolerance.

Tissue transglutaminase antibody testing and small bowel biopsy :

they’re used especially in diarrhea-predominant irritable bowel syndrome to diagnose celiac disease.

History-Specific Examinations

Thyroid function tests:

they are used to screen for hyperthyroidism or hypothyroidism.

Serum calcium test:

used to screen for hyperparathyroidism.

Erythrocyte sedimentation rate and C-reactive protein measurement:

they are nonspecific screening tests for inflammation.

History-Specific Imaging Studies

Gallbladder ultrasonography:

should be considered if the patient has recurrent dyspepsia or characteristic postprandial pain.

Abdominal computed tomography (CT) scanning :

it is appropriate to screen for tumors, obstruction, and pancreatic disease.

History-Specific Imaging Studies

CT and magnetic resonance (MR) enterography or wireless capsule endoscopy :
they are employed if red flags exist to suggest enteritis (small bowel inflammation) or a tumor.

Colonoscopy:
indicated for patients with warning signs, such as bleeding; anemia; chronic diarrhea; older age; history of colon polyps; cancer in the patient or first-degree relatives; or constitutional symptoms, such as weight loss or anorexia. A screening colonoscopy should be performed according to published guidelines.

Dietary Studies

Employ a lactose-free diet for 1 week in conjunction with lactase supplements. Improvement incriminates lactose intolerance, although the patient's clinical history and response to a trial may be unreliable. Therefore, some gastroenterologists recommend a formal hydrogen breath test. Fructose intolerance must also be considered.

History-Specific Procedures

Anal manometry:

may reveal a spastic response to rectal distention or other problems.

flexible sigmoidoscopy:

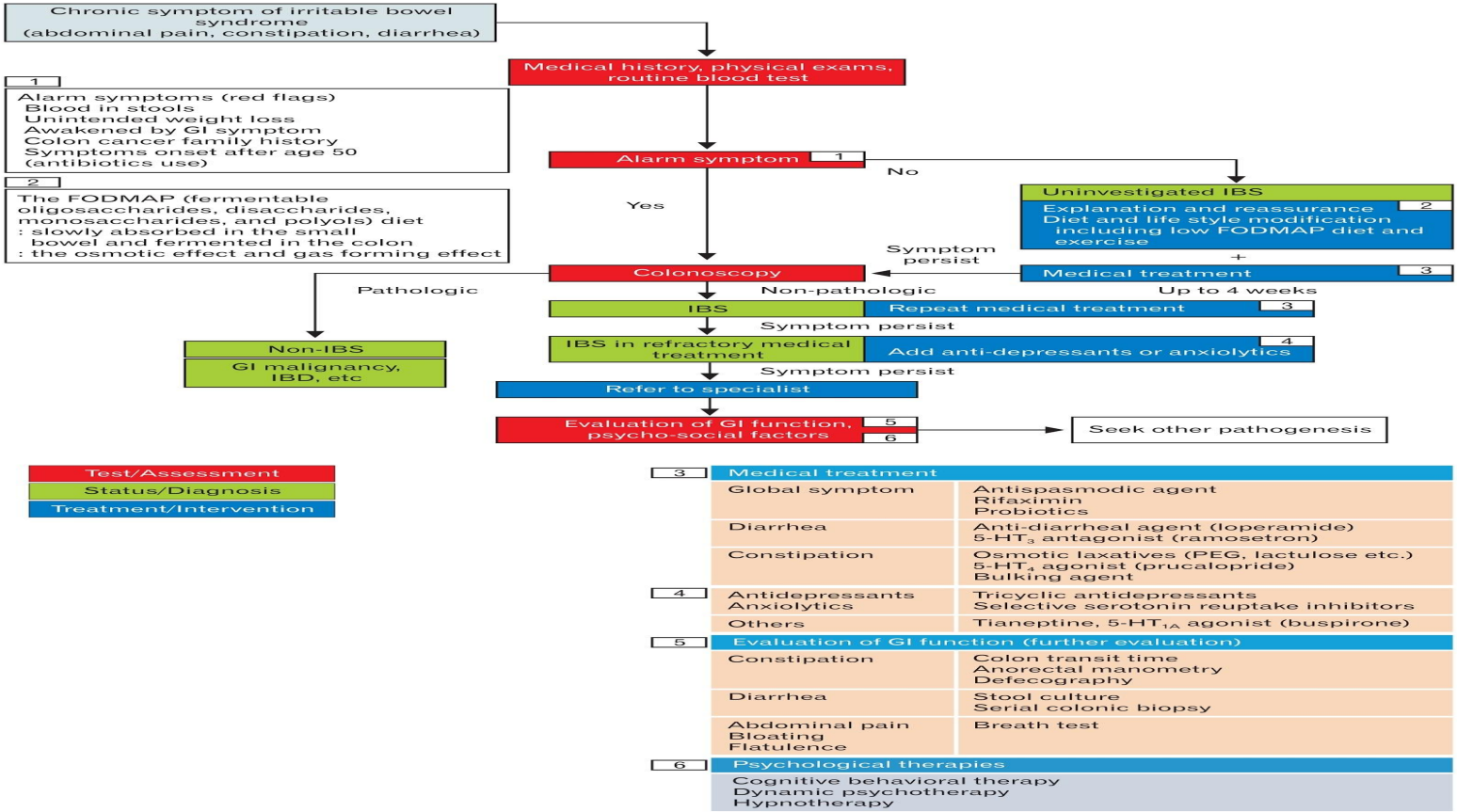
to assess for inflammation or distal obstruction.

Esophagogastroduodenoscopy with possible biopsy:

indicated in patients with persistent dyspepsia, if weight loss or symptoms suggest malabsorption, or if celiac disease is a concern.

Faecal Calprotectin

- A test for bowel inflammation.
- A sensitive test, prone to false positives.
- False positive results can be caused by NSAIDs, liver cirrhosis, infectious colitis (Salmonella, C diff etc.).
- >200 means gut inflammation; refer or if > 100 and other features of IBD.
- Less than 50 is normal .
- 50-200 = equivocal , must repeat after 3 months.


Chronic symptom of irritable bowel syndrome (abdominal pain, constipation, diarrhea)
Medical history, physical exams, routine blood test
1
Alarm symptoms (red flags)
Blood in stools
Unintended weight loss
Awakened by GI symptom
Colon cancer family history
Symptoms onset after age 50 (antibiotics use)
2
The FODMAP (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols) diet
: slowly absorbed in the small bowel and fermented in the colon
: the osmotic effect and gas forming effect
Alarm symptom 1
No
Yes
Uninvestigated IBS
Explanation and reassurance 2
Diet and life style modification including low FODMAP diet and exercise
+
Medical treatment 3
Symptom persist
Colonoscopy
Pathologic
Non-pathologic
Up to 4 weeks
IBS
Repeat medical treatment 3
Symptom persist
IBS in refractory medical treatment
Add anti-depressants or anxiolytics 4
Symptom persist
Refer to specialist
Evaluation of GI function, psycho-social factors 5 6
Seek other pathogenesis
Non-IBS
GI malignancy, IBD, etc
Test/Assessment
Status/Diagnosis
Treatment/Intervention
3 Medical treatment
Global symptom: Antispasmodic agent; Rifaximin; Probiotics
Diarrhea: Anti-diarrheal agent (loperamide); 5-HT3 antagonist (ramosetron)
Constipation: Osmotic laxatives (PEG, lactulose etc.); 5-HT4 agonist (prucalopride); Bulking agent
4
Antidepressants Anxiolytics: Tricyclic antidepressants; Selective serotonin reuptake inhibitors
Others: Tianeptine, 5-HT1A agonist (buspirone)
5 Evaluation of GI function (further evaluation)
Constipation: Colon transit time; Anorectal manometry; Defecography
Diarrhea: Stool culture; Serial colonic biopsy
Abdominal pain, Bloating, Flatulence: Breath test
6 Psychological therapies
Cognitive behavioral therapy
Dynamic psychotherapy
Hypnotherapy

“

Case:

Patient came complaining of **abdominal pain and discomfort.**

What is your DDx?

DDX

1. Inflammatory bowel disease **(crohn's disease & Ulcerative colitis)**
2. Malabsorption syndromes (such as **celiac disease or pancreatic insufficiency**)
3. Lactose intolerance
4. GI infection
5. Psychiatric disorders (such as **depression, anxiety** or somatization disorder)
6. Endocrine disorders (such as **hypothyroidism, hyperthyroidism, diabetes or Addison's disease**)
7. **Colorectal Cancer.**

DDX

Main symptoms of IBD:

1. **Ulcerative colitis**: Rectal bleeding + diarrhea + Urgency.
2. **Crohn's disease**: Abdominal Pain + weight loss + Diarrhea.

Small intestinal bacterial overgrowth (SIBO):

Also experience abdominal pain or discomfort, bloating, flatulence and loose motion.

DDX

Symptoms of Colon cancer:

- **Bleeding** from your rectum or blood mixed with stool.
- Rectal bleeding may be hidden and chronic and only show up as an **iron deficiency anemia.**
- It may be associated with **fatigue and pale skin** due to the anemia.
- **Positive constitutional symptoms.** (weight loss, fevers,headache, fevers of unknown origin,hyperhidrosis, generalized hyperhidrosis).

*All people presenting with possible IBS symptoms should be assessed and clinically examined for **red flag** indicators and **should be referred to secondary care for further investigation** if any are present:*

- **Unexplained Weight loss**
- **Visible or occult blood in stool**
- **Recurrent Fever**
- **Abdominal masses and/or Rectal masses**
- **Anemia**
- **Family history of ovarian cancer or Colon Cancer.**
- **Age >60 + change in bowel pattern >6 weeks**
- **Inflammatory markers (Faecal calprotectin) for inflammatory bowel disease.**
- **Increased Erythrocyte Sedimentation Rate (ESR)**

Alarm symptoms (Red flags)

Patients that may need referral for IBS:

1- The presence of Alarming symptoms.

2- Some people need a referral to a psychiatrist.

Indications for a referral to a psychiatrist:

Considered for people with IBS who do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile (described as refractory IBS).

When to refer to specialist

Management plan and follow up

Dietary and lifestyle advice

*People with IBS should be given information include information on **general lifestyle, physical activity, diet** and symptom targeted **medication.***

- ***General lifestyle***
  - Healthcare professionals should encourage people with IBS to **create relaxation time.**
- ***Physical activity***
  - Healthcare professionals should assess the physical activity levels. People with low activity should be given advice and counselling to encourage them to **increase their activity levels.**
- ***Diet and nutrition***

Dietary and lifestyle advice

Diet and nutrition

- *Have regular meals and take time to eat.*
- *Drink at least 8 cups of fluid per day, especially water.*
- *Restrict tea and coffee to 3 cups per day.*
- *Reduce intake of alcohol and fizzy drinks.*
- *Limit intake of high-fibre food.*
- *Limit fresh fruit to 3 portions per day.*
- *People with diarrhoea should avoid sorbitol.*
- *People with bloating may find it helpful to eat oats.*
- *People with IBS should be discouraged from eating **insoluble fibre** (for example, **bran**). And advice them to eat **soluble fibre** such as **ispaghula powder** or foods **high in soluble fibre** (for example, **oats**).*

Pharmacological Therapy

Decisions about pharmacological management should be based on the nature and severity of symptoms.

★ *Antispasmodic agents*

Should consider prescribing ***antispasmodic agents*** taken as required, alongside **dietary** and **lifestyle** advice.

★ *Laxatives*

People with ***constipation*** should be consider **Laxatives**.

And should be discouraged from taking **lactulose**.

★ *Linaclotide*

IF:

1- Optimal or maximum tolerated doses of previous laxatives from different classes have not helped.

2- They have had **constipation** for at least 12 months.

3- Follow up people taking linaclotide after 3 months.

Pharmacological Therapy

★ *Loperamide*

The ***first choice*** of antimotility agent for ***diarrhoea*** in people with IBS.

★ *Tricyclic antidepressants (TCAs)*

Second-line treatment for people with IBS if laxatives, loperamide or antispasmodics have not helped.

Start treatment at a low dose (5–10 mg) and review regularly.

Taken once at night.

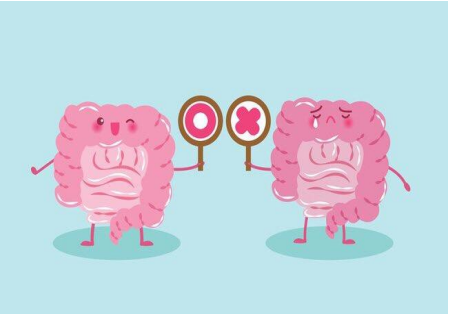
★ *Selective serotonin reuptake inhibitors (SSRIs)*

Only if TCAs are **ineffective**.

Follow-up

- *Follow up people taking either of these drugs for the first time at low doses for the treatment of pain or discomfort in IBS* ***after 4 weeks and then every 6–12 months.***

- *The emergence of any* ***'red flag' symptoms during management and follow-up should prompt further investigation and/or referral to secondary care.***



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