Changes in bowel habits

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Objectives:

- Define constipation and diarrhea
- Discuss the definition, etiology and classification of irritable bowel syndrome (IBS)
- Explain how to diagnose IBS
- List the alarm symptoms and differential diagnosis
- Provide a comprehensive management plan and follow up for patients with IBS
- Recognize when to refer to specialist
- Demonstrate history taking and physical examination for patients presented with history suggestive of IBS
- Practical: Examination of the Abdomen, how to perform the examination?

Diarrhea (It is a symptom, not a disease)

- Diarrhea is defined as having three or more loose or liquid stools per day, or as having more stools than is normal for that person. (WHO)
- Diarrhea is defined as the passage of more than 200 g of stool daily. (Davidson)
- There are two types acute, and chronic or relapsing diarrhea

Acute	Chronic or relapsing
• Lasts less than 2 to 3 weeks. • Usually due to fecal– oral transmission of bacterial (most severe), viruses (most common) or parasites. • Most common viral infection: (rotavirus and Norwalk virus) • A variety of drugs, including antibiotics, cytotoxic drugs, PPIs and NSAIDs, may be responsible.	• Lasts more than 4 weeks. • Can be categorized as being due to disease of the colon or small bowel, or due to malabsorption.

Causes f diarrhea

Acute:

1. **Infection**—viruses (viral gastroenteritis), then bacteria, then parasites.
2. **Medications**—antibiotics (most common)
3. Malabsorption (e.g., lactose intolerance)
4. Ischemic bowel in elderly patients with history of PAD and bloody diarrhea, along with abdominal pain.

Chronic:

1. IBS (most common, diagnose of exclusion).
2. Inflammatory bowel disease (IBD)
3. Infection.
4. Colon cancer
5. Diverticulitis

Constipation (It is a symptom, not a disease)

- Constipation is defined as infrequent passage of hard stools.
- Patients may complain of straining, a sensation of incomplete evacuation and either perianal or abdominal discomfort.

❖ Facts on constipation:

- **Constipation generally occurs because too much water is absorbed from food**
- **Causes of constipation include physical inactivity, certain medications, and aging**
- **Some cases of constipation can be relieved by lifestyle changes**
- **Laxatives should only be used as a last resort**

❖ Causes of constipation

Constipation may result from several causes:

1. Diet—lack of fiber.
2. Inadequate fluid intake.
3. Caffeine and alcohol.
4. Medications.
5. IBS.
6. Obstruction: colorectal cancer (CRC), anal stricture, hemorrhoids, anal fissure.
7. Ileus, pseudo-obstruction
8. Anorectal problems: hemorrhoids, fissures
9. Endocrine/metabolic causes: hypothyroidism, hypercalcemia, hypokalemia, uremia, dehydration
10. Neuromuscular disorders: Parkinson disease, multiple sclerosis, CNS lesions, scleroderma, DM (autonomic neuropathy)
11. Congenital disorders: Hirschsprung disease

Irritable bowel syndrome

Idiopathic disorder associated with an intrinsic bowel motility dysfunction (abnormal resting activity of GI tract). Characterized by recurrent abdominal pain in association with abnormal defecation in the absence of a structural abnormality of the gut.

❖ General characteristic:

- Affects 10-15% of all adults.
- Young women are 2-3 times affected.
- Coexisting conditions, such as non-ulcer dyspepsia, chronic fatigue syndrome, dysmenorrhea and fibromyalgia
- Often preceded by psychiatric symptoms.
- Symptoms are exacerbated by stress and irritants in the intestinal lumen.
- All laboratory test results are normal, and no mucosal lesions are found on sigmoidoscopy.
- It is a benign condition and has a favorable long-term prognosis.

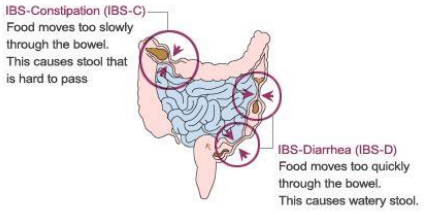
❖ Clinical features:

1. Diarrhea or constipation (or alternating in most of the patients)
2. Recurrent abdominal discomfort. Usually colicky or cramping in nature (relieved by defecation), sigmoid colon is the common location of pain.
3. Bloating, and feeling of abdominal distention.

❖ Classification:

- **IBS with constipation (IBS-C):** hard or lumpy stools for ≥25% of bowel movements and loose (mushy) or watery stools for ≤25% of bowel movements.
- **IBS with diarrhoea (IBS-D):** loose (mushy) or watery stools for ≥25% of bowel movements and hard or lumpy stool for ≤25% of bowel movements.
- **Mixed IBS (IBS-M):** hard or lumpy stools for ≤25% of bowel movements and loose (mushy) or watery stools for ≤25% of bowel movements.
- **Unspecified IBS:** insufficient abnormality of stool consistency to meet criteria for IBS-C, IBS-D, or IBS-M

There is some evidence that IBS may be a serotoninergic (5-HT) disorder, as evidenced by relatively excessive release of 5-HT in diarrhea-predominant IBS (D-IBS) and relative deficiency with constipation-predominant IBS (C-IBS). Accordingly, 5-HT3 receptor antagonists are effective in D-IBS, while 5-HT4 agonists improve bowel function in C-IBS.



❖ Etiology: from up-to-date

There are a number of theories. Despite intensive research, the cause is not clear.

- **Abnormal contractions of the colon and intestines:**
  Vigorous contractions of the intestines can cause severe cramps. (giving medications such as antispasmodics and fiber can help in regulate the contractions of the colon therefore symptoms can be relieved).

- **After gastrointestinal infection:**
  (eg, *Salmonella* or *Campylobacter*, or viruses).
  It is not clear how the infection triggers IBS to develop.

- **Intestinal inflammation**
  - Theory that IBS represent a low-grade inflammation not detected by test with raised number of mast cells (This theory supported by the improvement of the condition with mast cell stabilizers)

- **Behavioral and psychosocial**
  1. Anxiety and stress worsen symptoms. However, they are probably not the cause.
  2. History of physical, verbal, or sexual abuse.

- **Food intolerances:**
  - Dairy products (which contain lactose), legumes (such as beans), and cruciferous vegetables (such as broccoli, cauliflower, Brussels sprouts, and cabbage). These foods increase intestinal gas. The best way to detect an association between symptoms of irritable bowel syndrome and food sensitivity is to eliminate certain food groups systematically (elimination diet).

- **Heightened sensitivity of the intestines to normal sensations (visceral hyperalgesia):**
  - Nerves in the bowels are overactive, so that normal amounts of gas or movement are perceived as excessive and painful. Some patients if you give them medications that decrease pain perception in the intestine feel better.
- **Hormones**:
  - Women are twice as likely to have IBS

- **Genetics**.

❖ Diagnosis:

This is a clinical diagnosis, and a diagnosis of exclusion.

History:

- **Presence of risk factors**
  - physical and sexual abuse.
  - Age < 50
  - Female gender
  - Previous enteric infection

- **Symptoms:**
  - Abdominal discomfort (cramping) – Defecation relieves the pain.
  - Alteration of bowel habits
  - Abdominal bloating and distention
  - Passage of mucus with stool
  - Incomplete evacuation, rectal hypersensitivity, as well as urgency.

➢ Rome IV diagnostic criteria:

Recurrent abdominal pain, at least one day per week in the last three months, associated with two or more of the following criteria:
• Related to defecation • Associated with a change in stool frequency • Associated with a change in stool form (appearance)

➢ **Diagnosis based on NICE guideline:**

- Irritable bowel syndrome should be considered if an adult presents with abdominal pain or discomfort, bloating or a change in bowel habit for at least 6 months.
- A diagnosis should be considered only if the person has abdominal pain or discomfort that is either relieved by defecation or is associated with altered bowel frequency or stool form. This should be accompanied by at least 2 of the following 5 symptoms:

  - Altered stool passage (straining, urgency, incomplete evacuation)
  - Abdominal bloating
  - Symptoms made worse by eating
  - Passage of mucus.
  - Lethargy, nausea, backache and bladder symptoms

Investigations:

- No specific diagnostic test
- Excludes other causes of such symptoms:
  - **FBC** → normal in IBS
  - **Stool studies** → done in patient complaining of diarrhea to exclude parasites.
  - **anti-endomysial antibodies, anti-TTG antibodies** → to exclude celiac disease
  - **Plain X-ray** → exclude obstruction
  - **Flexible sigmoidoscopy, colonoscopy** → exclude inflammatory bowel disease, colon cancer
  - **Serum CRP** → <0.5 mg/L makes IBD unlikely and IBS more likely
  - **Fecal calprotectin test** → also to differentiate between IBS and IBD.

❖ Alarming Symptoms

1. Rectal Bleeding.
2. Unintentional/unexplained weight loss.
3. Positive inflammatory marker.
4. Iron deficiency anemia
5. Family history of ovarian cancer or colon cancer.
6. Fever
7. Nocturnal symptoms.
8. >40y with new symptoms.

❖ Differential Diagnosis

1. Inflammatory bowel disease as in Crohn's disease (ulcerative colitis)
2. Symptoms which suggest obstruction of the intestine, called intestinal pseudo-obstruction, as in diabetes or scleroderma
3. Abuse of medications such as laxatives or bowel binders
4. Lactose intolerance
5. Psychiatric disorders (such as depression, anxiety or somatization disorder)
6. Infections of the digestive tract
7. Malabsorption syndromes (such as celiac disease or pancreatic insufficiency)
8. Endocrine disorders (such as hypothyroidism, hyperthyroidism, diabetes or Addison’s disease)
9. Certain rare endocrine tumors (such as gastrinomas or carcinoid tumors)
10. Carcinomas of the intestine

❖ Management

- **IBS is a chronic condition with no known cure.**
- **The focus of treatment should be on relief of symptoms and in addressing the patient's concerns.**
- **There is no cure, but effective management may lessen the symptoms.**
- **Does not affect quality of life → Diet and lifestyle changes only**
- **Effects quality of life → Diet, lifestyle changes and pharmacological therapy.**
- **The plan (Best explained in the summery picture)**

    - **Patient education** → reducing stress and increasing exercise
    - **Dietary modification** → Fiber and diet
    - **Psychosocial therapies** → Cognitive behavioral therapy (CBT) , Hypnotherapy and Psychotherapy

Pharmacology:

➢ First Line Treatment

- Antispasmodics (e.g. mebeverine, peppermint oil): all equally effective (taken as required alongside dietary and lifestyle advice.)
- Antidiarrheal preparation (e.g. loperamide)
- Fiber/bulking agent (constipation predominant): laxative

➢ Second Line Treatment

- Laxatives (linaclotide) follow up after 3 months
- optimal or maximum tolerated doses of previous laxatives from different classes have not helped and
- they have had constipation for at least 12 months.
- Tricyclic antidepressant and SSRI (Selective serotonin reuptake inhibitors): SSRI considered when TRAs Ineffective (also in case of anxiety)

➢ Third line treatment

- Eluxadoline: in case of antimotility, antispasmodics and TCAs ineffective

Psychosocial therapies:

- Psychotherapy, hypnosis and cognitive behavioral therapy.
- Who developed continuing symptom profile (described as refractory IBS).
- People with IBS who do not respond to pharmacological treatments after 12 months.

❖ Follow up

- Mutually agreed between Primary care clinician and person with IBS.
- Based in the response to symptoms and interventions.
- Should be annual review for the patient.
- Emergent of red flag symptoms.

❖ Referral to specialist

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

- More than minimal rectal bleeding.
- Weight loss.
- Unexplained iron deficiency anemia.
- Fever
- Nocturnal symptoms.
- Family history of Colorectal cancer IBD Celiac disease.

Summery (important for the management)