Medicine Team

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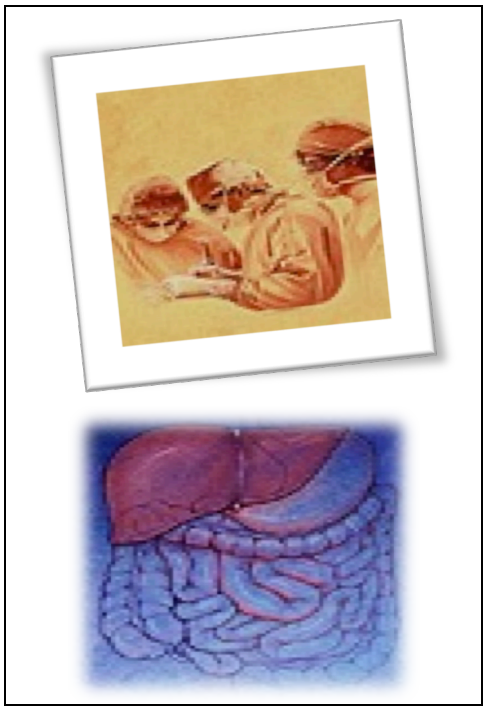
GIT& HEMATOLOGY BLOCK **2012**

Irritable Bowl Syndrome



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Anything in red is important.
Anything in green is a note.

Objectives:

1. Understand the hypothesis explain the pathophysiology of IBS.
2. Common sign and symptoms.
3. Rome III criteria of diagnosis.
4. Introduction to management of IBS.

Irritable bowel syndrome (IBS):

Is a gastrointestinal disorder characterized by chronic abdominal pain and altered bowel habits in the absence of any organic cause.

- It is the most commonly diagnosed gastrointestinal condition.
- The pathophysiology of IBS remains uncertain.
- It is viewed as a disorder resulting from an interaction among a number of factors.

Pathophysiology of IBS: (it has many theories)

A. Gastrointestinal motility:

- Motor abnormalities of the GI tract are detectable in some patients with IBS.
- Abnormalities observed include:
  - Increased frequency and irregularity of luminal contractions.
  - Prolonged transit time in constipation-predominant IBS.

Accelerated transit time.

Small

B. Visceral hypersensitivity:

- Visceral hypersensitivity (increased sensation in response to stimuli) is a frequent finding in IBS patients.
- Perception in the gastrointestinal (GI) tract results from stimulation of various receptors in the gut wall. These receptors transmit signals via afferent neural pathways to the dorsal horn of the spinal cord and ultimately to the brain.

Some of the mild sensations that the normal people don't feel, the IBS patients feel it as severe pain sensations.

- **Distention:**
  Various studies have shown that in patients with IBS, awareness and pain caused by balloon distention in the intestine are experienced at lower balloon volumes compared with controls.
- **Bloating:**
  About half of patients with IBS (mainly those with constipation) have a measurable increase in abdominal girth associated with bloating (sensation of abdominal fullness).

The IBS patients feel the gasses more than the normal people, because generally their neurons are more sensitive.

- It is unclear whether heightened sensitivity of the intestines to normal sensations is mediated by the local GI nervous system, by central modulation from the brain, or by some combination of the two.

C. Intestinal inflammation:

(Lymphocytes)

- Increased numbers of lymphocytes have been reported in the colon and small intestine in patients with IBS.
- Increase in lymphocyte infiltration in the myenteric plexus in nine patients and neuron degeneration in six patients.
- These cells release mediators (nitric oxide, histamine and proteases) capable of stimulating the enteric nervous system, leading to abnormal motor and visceral responses within the intestine.

D. Post infectious:

Walkerton, Ontario

This type is one of the benign types, and usually lasts only for 6 weeks.

E. Alteration in fecal micro flora:

- Change in gut micro biota:
  - Emerging data suggest that the fecal micro biota in individuals with IBS differ from healthy controls and varies with the predominant symptom.
- Bacterial Overgrowth.

F. Food sensitivity:

G. Psychosocial dysfunction:

- Psychosocial factors may influence the expression of IBS.

Clinical feature:

- Younger patients and women are more likely to be diagnosed with IBS.
- 2:1 female predominance in North America.
- In china male are more common to have IBS.

Sign and Symptoms:

- Chronic abdominal pain.
- Altered bowel habits.
- Diarrhea.
- Constipation.
- Other gastrointestinal symptoms.
  - Upper gastrointestinal symptoms, including gastro esophageal reflux, dysphagia, early satiety, intermittent dyspepsia, nausea, and non-cardiac chest pain, are common in patients with IBS.

Subtypes of IBS:

The easiest type to treat.

- IBS with constipation: →
  - Hard or lumpy stools ≥25 percent / loose or watery stools <25 percent of bowel movements.
- IBS with diarrhea:
  - Loose or water stools ≥25 percent / hard or lumpy stools <5 percent of bowel movements.
- Mixed IBS:
  - Hard or lumpy stools ≥25 percent / loose or watery stools ≥25 percent of bowel movements.
- Unsubtyped IBS:
  - Insufficient abnormality of stool consistency to meet the above subtypes.

Diagnostic approach:

- Diagnostic criteria (Rome III criteria):
  Recurrent abdominal pain or discomfort at least 3 days per month in the last 3 months associated with 2 or more of the following:
  - Improvement with defecation.
  - Onset associated with a change in frequency of stool.
  - Onset associated with a change in form (appearance) of stool.
- Patients are identified as having a symptom complex compatible with IBS based upon the Rome III criteria.
- Routine laboratory studies (complete blood count, chemistries) are normal in IBS.
- **NO red flag symptoms:**
  - Rectal bleeding.
  - Nocturnal or progressive abdominal pain.
  - Weight loss.

The red flag symptoms predict malignancies.

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.
  - Therapeutic relationship
  - Patient education
  - Dietary modification
  - Psychosocial therapies
  - **Medications**: → Antidepressant medication (the SSRI is the best).

- Mast cells — Mast cells are effector cells of the immune system. An increased number of mast cells has been demonstrated in the terminal ileum, jejunum, and colon of IBS patients [30,31]. Studies
- have demonstrated a correlation between abdominal pain in IBS and the presence of activated mast cells in proximity to colonic nerves [31]. (See "Mast cells: Development, identification, and physiologic roles", section on 'Physiologic roles'.)
- Proinflammatory cytokines — Cytokines are proteins that are mediators of immune responses. Elevated levels of plasma proinflammatory interleukins have been observed in patients with IBS [28,32]. In addition, peripheral blood mononuclear cells of IBS patients produce higher amounts of tumor necrosis factor than healthy control.

Summary

-IBS is a GI disorder characterized by chronic abdominal pain and altered bowel habits in the absence of any organic cause.

-The pathophysiology of IBS remains uncertain. There are some theories and factors that interact with each other.

-Younger patients and women are more likely to be diagnosed with IBS.

-Rome III criteria: **recurrent** abdominal pain or discomfort at least 3 days per month in the last 3 months associated with 2 or more of the following: improvement with defecation, onset associated with a change in frequency of stool, or /and onset associated with a change in form of stool.

-Subtypes of IBS: with constipation, with diarrhea, mixed and unsubtyped IBS.

-Diagnostic approach: Rome III criteria, routine laboratory studies are normal, NO red flag symptoms (rectal bleeding, nocturnal abdominal pain and weight loss).

-There is no known cure for IBS, we only treat the symptoms. E.g. dietary modification, patient education, antidepressant SSRI.

Questions

Q1: Which one of the following is a red flag symptom:

1- Rectal bleeding
2- Wight gain
3- Abdominal comfort.

Q2: Which one of these statements is true:

1- Wight loss indicate IBS
2- There is a higher chance of IBS patient to develop a cancer.
3- Younger patients and women are more likely to be diagnosed with IBS.

Q3: Rome III criteria:

1- Abdominal pain doesn't improve with defecation.
2- Nocturnal abdominal pain.

3- Onset associated with a change in frequency of stool.

Answers

Q1: 1 Q2: 3 Q3: 3

Good Luck