

Lecture 7[2hrs]

Irritable Bowel Syndrome[IBS]

Irritable bowel syndrome (IBS) is a functional gastrointestinal (GI) disorder characterized by altered bowel habits and abdominal pain in the absence of biochemical and structural abnormalities. IBS is a disorder of young people affecting 10-20% of people. More common in women than men

Pathophysiology

IBS is a multifactorial functional disease. There is no clear understanding of the exact etiology of IBS. The symptoms may be caused by multiple interrelated factors. There are multiple proposed theories and mechanisms regarding the pathophysiology of IBS including.

*Altered gastrointestinal motility. IBS with constipation may be explained based on hypertonic contraction, decrease rectal sensation. Patient with diarrhea may be explained by contraction and propagation, increase gastrocolic response or rectal hypersensitivity

*Visceral hypersensitivity. The patient cannot tolerate quantities of small bowel intraluminal gas[distention] that are easily tolerated by a healthy individual. Because of the low pain threshold.

*Psychological distress, brain-gut axis. The CNS is connected to the myenteric plexus to the visceral muscle, the end-organ structure that affects sensory, motor, endocrine, autonomic, immune, and inflammatory functions resulting in a change in the GIT motility by emotional factors like fear, anger, and psychological stress.

*Genetic predisposition, environmental agents.

*Luminal factors. Like bile acids and abnormal colonic flora.

Rome 4 is the most recent criteria for the diagnosis of IBS

Recurrent abdominal pain or discomfort at least 1 day per week in the last 3 months that is associated with 2 or more of the following criteria.

1-Relief by defecation.

2-Onset associated with a change in the frequency of stool.

3-Onset associated with a change in the form[appearance] of stool.

Other Symptoms that Support The Diagnosis of IBS. include

*Altered stool frequency [>3 per day or <3 bowel movement per week].

*Altered stool form [lumpy, hard or loose/watery].

*Altered stool passage [straining, urgency or feeling of incomplete evacuation].

* mucus in the stool, bloating or feeling of abdominal distention

Pain is frequently episodic and crampy but may be superimposed on a background of constant pain.

Pain may be mild enough to be ignored or it may interfere with daily activities.

Sleep deprivation is unusual because abdominal pain is present only during waking hours.

Pain is often exacerbated by eating or emotional stress and relieved by passage of flatus or stools.

Alteration in bowel habits is the most consistent clinical feature in IBS.

Based on predominant symptom IBS is classified as diarrhea-predominant, constipation-predominant, and mixed [both constipation and diarrhea].

* Constipation-predominant

Maybe episodic or becomes continuous and sometimes intractable to treatment with laxatives. Stools are usually hard with narrowed caliber possibly reflecting excessive dehydration caused by prolonged colonic retention and spasm. Most patients experience a sense of incomplete evacuation.

*Diarrhea-predominant

Diarrhea usually small volumes of loose stools and may be accompanied by the passage of large amounts of mucus. Nocturnal diarrhea does not occur in IBS. Diarrhea may be aggravated by eating or stress.

Gas and Flatulence

Patients with IBS frequently complain of abdominal distention and increased belching or flatulence. Most IBS patients develop symptoms even with minimal gut distention, suggesting that the basis of their complaints reduced tolerance of distention rather than an abnormal quantity of intraluminal gas.

Upper Gastrointestinal Symptoms include

Dyspepsia, heartburn, nausea.

Features that exclude the diagnosis of IBS include

Weight loss, Anemia, Malnutrition, Melena or blood in the stool
high ESR, Leukocytosis, abdominal mass

Differential diagnosis of IBS include

*Diarrhea predominant

-Coeliac disease

-IBD, Lactose intolerance, Bile salt Malabsorption, Microscopic colitis, and Thyrotoxicosis

*Constipation predominant.

-Pelvic floor dysfunction.

-Slow transit constipation

-Intestinal pseudo-obstruction

Physical examination

Does not reveals any abnormalities, although bloating and variable tenderness to palpation is common.

Investigations

The aim is to exclude organic disease.

*Full blood count, ESR, US, and Sigmoidoscopy are usually done routinely.

*Those with diarrhea-predominant needs investigation to exclude

-Coeliac disease, IBD, Lactose intolerance, Bile salt Malabsorption, Microscopic colitis, and Thyrotoxicosis.

*Those with constipation needs investigation to exclude. Pelvic floor dysfunction, slow transit constipation, Intestinal pseudo-obstruction, hypothyroidism.

* OGD or upper GI radiographs for patients with concurrent symptoms of dyspepsia,

*Ultrasound of the gallbladder for patients with postprandial right upper quadrant pain,

*Colonoscopy or Barium enema for patient irrespective of age with Presence of

1-Wt loss, Night pain, Severe abdominal pain, Stool with blood

2-Symptoms refractory to conventional diet or drug management.

to exclude colorectal cancer or IBD.

Treatment

patient Reassurance, dietary changes increase soluble fiber intake, avoidance of caffeine or alcohol

***For pain Therapy include**

Antispasmodics.-Mebeverine 135-270 mg/day, Alverine citrate 60-120mg, Dicyclomine 10-20 mg Hyoscine 10-20 mg three times daily.

***For constipation-predominant therapy include**

High roughage diet –Ispaghula, Lactulose, magnesium hydroxide, polyethylene glycol,

Chloride channels activators

*Lubiprostone .stimulate chloride channels of the intestinal mucosa causing chloride and water secretion into the small intestinal lumen.

Serotonin receptor drugs [5-HT₄ agonist] increase serotonin within the intestinal wall

*Tegaserod

*Prucalopride

***For diarrhea-predominant therapy include**

Avoid legumes and excessive dietary fiber.

Anti-diarrheal drugs

*Lopromide 2-4mg daily

*codeine phosphate 30-90mgdaily

*Cholestyramine 1 sachet daily

- *Serotonin reuptake inhibitors fluoxetine, citalopram, alosetron
- *Antibiotic Rifaximin,

Low dose Antidepressants and Serotonin reuptake inhibitors may decrease visceral hypersensitivity

Alternative therapy-probiotic, Peppermint oil 0.2-0.4 capsules 1-3 times daily

Relaxation therapy –Biofeedback, Hypnotherapy

DIVERTICULOSIS

Diverticula are acquired condition and consist of protrusions of colonic mucosa covered by peritoneum through points of weakness in the colonic wall where the blood vessels penetrate the muscularis propria.

There is commonly hypertrophy of the circular muscle coat.

Diverticulosis is most common in the sigmoid and descending colon.

Etiology

A life-long refined diet with a relative deficiency of fiber causing small volume stools which needs high intracolonic pressures for propulsion and this leads to the Herniation of mucosa between the taeniae coli.

Clinical features

Symptoms are usually the result of constipation or spasm

*Colicky pain is usually suprapubic or in the left iliac fossa.

*The descending colon may be palpable.

*Diverticulitis causing [localized tenderness, rebound tenderness rigidity and a palpable mass in the left lower quadrant, diarrhea, rectal bleeding and fever].

Differential diagnosis include

Inflammatory bowel disease, colonic cancer, ischemic colitis and infections

Complications of diverticulosis include

*Diverticulitis, Perforation, local abscess formation, fistula, and peritonitis.

*Obstruction. Repeated attacks of inflammation lead to thickening of the bowel and narrowing of the lumen

*Bleeding. It is a sudden onset, painless, and massive.

Investigations

*Barium enema confirms the presence of diverticula.

*Colonoscopy to exclude other differential diagnoses.

*CT scan may help outline the colon and identify an abscess and is preferable to barium enema for diagnosis in patients with diverticulitis.

Treatment

No treatment For asymptomatic Diverticulosis

*Constipation can be relieved by a high- fiber diet with or without bulking laxative.

*Diverticulitis needs

a-intravenous fluids and bowel rest [no oral intake or just a clear liquid diet].

b-Broad-spectrum intravenous antibiotics. C-Surgery for severe hemorrhage, perforation, or obstruction.

Dyspepsia

Dyspepsia refers to upper abdominal symptoms including Epigastric discomfort or pain, feeling of abdominal fullness, early satiety, abdominal distention, belching and nausea usually following intake of food. Dyspepsia is a symptom and not a diagnosis. It is one of the commonest gastrointestinal clinical condition affecting at least 25% of the population. Approximately 25 percent of patients with dyspepsia have an underlying organic cause that can be identified by examinations and about 75 percent of patients have functional (idiopathic or nonulcer).

1-Functional or non-ulcer dyspepsia: FD

dyspepsia with no organic cause found on diagnostic evaluation

Pathophysiologic mechanisms that may explain functional dyspeptic symptoms include

*Motility abnormalities : (a) Gastric antral hypomotility and delay in gastric emptying;(b) impaired gastric accommodation in response to meals which may lead to a decrease in the ability

of the stomach to expand and allow the consumption of a large meal. (c) disordered gastric electrical activity

*Gastric and duodenal sensory abnormalities.

*Psychological factors[anxiety, somatization, and depression are more common in patients with FD compared to healthy controls].

According to Rome criteria, functional dyspepsia includes one or more of the following 1- Postprandial fullness 2-early satiety 3- epigastric burning sensation 4-epigastric pain unrelated to exercise with a negative medical workup that included an (OGD), 24-hour esophageal pH monitoring and H. Pylori assessment that is likely to explain the symptoms. These criteria should be met for 3 m with symptoms onset at least 6 m before diagnosis.

functional dyspepsia is divided into 2 groups :

A- The epigastric pain syndrome [predominant epigastric pain or burning after meal].

B- The postprandial distress syndrome[early satiety or fullness following a meal].

2-Secondary dyspepsia include

A-Organic dyspepsia. causes include erosive esophagitis, gastric erosions, acute or chronic gastritis, gastric ulcer, duodenal ulcer, duodenitis, gastric malignancy (carcinoma, lymphoma). celiac disease, Crohn's disease, pancreatitis, pancreatic cancer, giardia lamblia, TB, strongyloids stercoralis,

B-Medications: causes include Acarbose, Aspirin and other NSAIDs (including COX-2 selective agents), Colchicine, Ethanol, Gemfirozil, Glucocorticoids, Iron, Levodopa, Narcotics, Niacin, Nitrates, Orlistat, Potassium chloride Quinidine, Sildenafil and Theophylline, antibiotics, bisphosphonates Estrogens and Digitalis.

C-Extra-intestinal. causes of dyspepsia include systemic diseases [diabetes mellitus, hypothyroidism, hyperparathyroidism, Addison's disease, uremia. Heart failure, myocardial ischemia,]

Approach to the patient with dyspepsia.

A detailed history, physical examination, and laboratory studies are necessary to determine the underlying etiology and identify alarm features.

Alarm features in dyspepsia include [*Weight loss *Anemia *Vomiting *Hematemesis and/or* melaena *Dysphagia *Palpable abdominal mass or lymphadenopathy *onset after the age of 60y *Fhx of upper GIT malignancy *personal Hx of PUD, gastric surgery or gastrointestinal malignancy].

The physical examination in patients with functional dyspepsia is usually normal, except for epigastric tenderness. findings on physical examination inpatient with organic dyspepsia may include a palpable abdominal mass (eg, hepatoma) or lymphadenopathy (eg, left supraclavicular or periumbilical in gastric cancer), jaundice (eg, secondary to liver metastasis), or pallor secondary to anemia. Ascites may indicate the presence of peritoneal carcinomatosis. Patients with an underlying malignancy may have evidence of muscle wasting and peripheral edema.

Laboratory tests — Routine blood counts and blood chemistry including liver function tests, serum lipase, and amylase should be performed to identify patients with alarm features (eg, iron deficiency anemia) and underlying metabolic diseases that can cause dyspepsia (eg, diabetes, hypercalcemia)

Patients (<55 years) with dyspepsia and without any alarm symptoms,

*Test for Helicobacter pylori (urea breath or stool antigen) and treat accordingly.

*Patients who are *H. pylori*-negative or who continue to have symptoms after successful eradication of *H. pylori* should be treated with antisecretory therapy with a proton pump inhibitor (PPI). antidepressant at bedtime

*Anxious patients may benefit from anxiolytic drugs.

*Prokinetics are preferred for dysmotility – type.

*Patients with continued symptoms of dyspepsia despite medications need upper endoscopy and biopsies to rule out organic causes of dyspepsia.

The patient above >55 y with or without alarm symptoms needs

*OGD with biopsies and treat accordingly.

* if normal endoscopy test for H.pylori and treat if no response antisecretory can be given for 8 w if no response antidepressant or Prokinetics can be given.