



Review Article

An Update on Irritable Bowel Syndrome

Md. Abdul Ahad¹, Quazi Tarikul Islam²

Abstract

Irritable bowel syndrome (IBS) is the most common disorder diagnosed by gastroenterologists and one of the more common ones encountered in general practice. The illness has a large economic impact on health care use and indirect costs, chiefly through absenteeism. IBS is a bio-psychosocial disorder in which three major mechanisms interact: Psychosocial factors, altered motility, and/or heightened sensory function of the intestine. Treatment of patients is based on positive diagnosis of the symptom complex, limited exclusion of underlying organic disease and institution of a therapeutic trial.

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Introduction

Irritable bowel syndrome (IBS) is one of the most common recognized functional gastrointestinal disorders characterized by chronic or recurrent abdominal pain associated with disturbed defecation and often bloating for at least three months¹. It is highly prevalent disorder and reported prevalence rate vary from 17 to 22 percent in general population^{2, 3} to 52% in outpatient population⁴. Point prevalence of IBS in a rural community in our country male 20.6% and female 27.7%, overall point prevalence is 24.4%⁵. It is the commonest diagnosis in gastrointestinal clinic and accounted for 50-70 percent work of gastroenterologist^{6, 7}. The prevalence is higher in lower socioeconomic groups, which may reflect unknown environmental factors. The prevalence is lower in the elderly. Although most patients continue to have chronic, recurring gastrointestinal symptoms, up to 30% become asymptomatic over time¹. For unknown reasons, the reporting of symptoms slightly declines with age, perhaps

because older people are less likely to report minor symptoms or because there are changes in visceral sensory thresholds with advancing age¹.

Pathophysiology

Irritable bowel syndrome (IBS) is characterized by symptoms that almost certainly arise from disparate causes. Several mechanisms may interact at any one time to induce symptoms. It is likely that both genetic and environmental factors contribute to symptoms pathogenesis¹. (Figure-1) Urgency and abdominal pain or diarrhoea is frequently encountered in the postprandial period, and a subgroup of patients has a prominent tonic and phasic response to feeding. This can be assessed by specific questions in the clinic and has clear physiologic correlates (increased postprandial propagated contractions in diarrhoea-predominant IBS or reduction of colonic contractions in constipation-predominant IBS), objectively shown by colonic manometry. Recent studies confirm the association with food

¹ Assistant Professor, Department of Gastroenterology, Rajshahi Medical College, Rajshahi.

² Associate Professor, Department of Medicine, Rajshahi Medical College, Rajshahi.

"sensitivity" or "intolerance," which may merely reflect exacerbation of symptoms by food. In fact, patients with diarrhoea-predominant IBS have higher serotonemic responses to a standard meal,

suggesting that serotonin might mediate these symptoms. Ragnarsson and Bodemar found that almost 50% of patients with IBS reported worsening of pain postprandially¹.

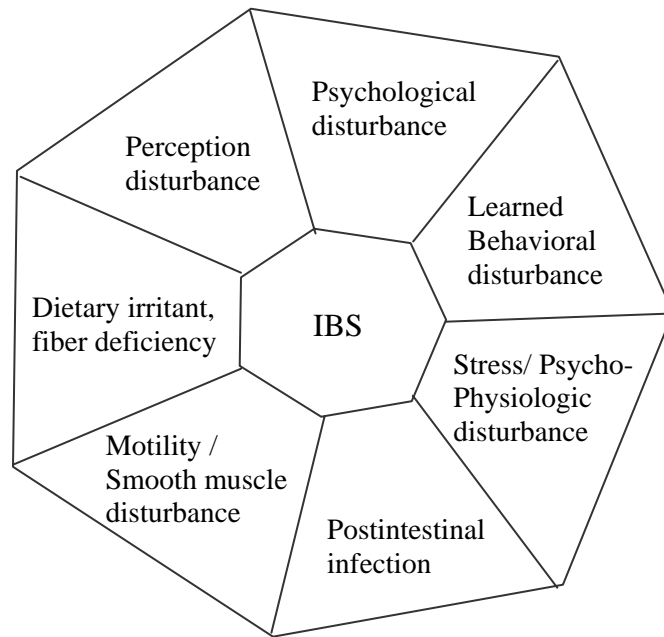


Figure-1: Potential mechanisms linked to IBS¹

Clinical features

(a) Abdominal pain

Abdominal pain and disturbed defecation are characteristics of IBS and required to make a diagnosis of IBS. The intensity and location of pain is highly variable. Pain is often precipitated by meal and relived by defecation. Rarely does the pain awaken the patients from sleep. Only 2 to 20 percent of IBS patients with chronically altered bowel habit have painless diarrhoea⁷.

(b) Altered bowel habit

A change in bowel habit is the key element of IBS. The disturbance of bowel function is generally progressive, eventually developing a characteristic pattern, most commonly alternating constipation and diarrhoea, with either predominating. In constipation predominant IBS stool is usually hard, often stool caliber is narrow, pencil-thin or ribbon-like due to colonic or rectal spasm. The diarrhoea predominant IBS usually consist of small volume of loose stool, evacuation is often

precipitated by extreme urgency, tenesmus typically in the morning or after meal. A sensation of incomplete fecal evacuation may lead the IBS patients to make the multiple attempts to stool passage over a short period of time.

(c) Abdominal distension, belching, flatus

Bloating or perceived abdominal distension is a common complaint of IBS. Belching or excessive flatus is also commonly reported. Quantitative measurement reveal that most patients who complaint of increased gas, bloating, flatulence, generate a normal amount of intestinal gas⁸.

(d) Non-colonic and extra intestinal symptoms

IBS is accompanied by numerous symptoms referable other section of gastrointestinal tract or abdominal organs. Dyspepsia, heartburn, pyrosis, nausea and vomiting appear in 25 to 50 percent of patients.⁹ Urinary symptoms have been reported in 33 to 50 percent patients and sexual dysfunction including dyspaerunia and inhibited sexual desire

has also been shown to be 5 to 15 times more common in patients with IBS⁹. Other symptoms include headache, backache, and fatigue. There is wide overlap with non-ulcer dyspepsia, chronic fatigue syndrome, dysmenorrhoea and urinary frequency. A significant proportion of these patients have a history of physical and sexual abuse¹.

On physical examination

A physical examination should be performed on the first clinical visit and on subsequent visit as recorded. Although the presence of palpable, tender sigmoid colon and discomfort with rectal examination has been proposed to aid diagnosis of IBS, the physical examination serves primarily to exclude other diagnosis. Importantly, the laying on the hands also provides reassurance to the patients.

Symptoms supportive of irritable bowel syndrome:

- Abnormal frequency (more than three bowel movements per day or less than three per week)
- Abnormal stool form (Lumpy/ hard/ loose/ watery)
- Abnormal stool passage (straining/ urgency/ feeling of incomplete evacuation)
- Passage of mucus.
- Bloating or sensation of abdominal distension.

In clinical practice, diagnosis is based on positive symptoms known as the Rome criteria and limited diagnostic screening taking into account warning features suggestive of organic disease. The sinister features are significant weight loss, fever, blood in stool, dehydration, evidence of steatorrhea, recurrent vomiting, dysphagia, abdominal lump and symptoms awakening patient from sleep. Presence of these features signifies that disease is more likely to be organic rather than functional. Minimal diagnostic tests are warranted to rule out structural lesion in a cost effective manner and to convince the patients for the diagnosis of IBS.

There are several other factors to consider that can help in planning a diagnostic strategy:

1. The duration and severity of symptoms: Recent onset of symptoms, particularly in older patient or more severe and disabling symptoms may require more extensive studies.

2. Demographic features: IBS is more common in women and younger age.
3. The referral status of patients: Patient seen in primary health care setting is less likely to require extensive investigation.
4. Previous diagnostic evaluation.
5. A history of colon cancer in the family.
6. The nature and extent of psychological difficulty.

Diagnostic Criteria

Functional bowel disorders have their basis in abnormal physiology or function and because of physiologic testing in gastrointestinal tract is less well defined thus diagnosis of functional disorders primarily depend on clinical rather than laboratory data. IBS is considered as functional motility disorder and no endoscopic, radiologic and biochemical abnormality associated with its diagnosis.¹⁰ So diagnosis is often made by exclusion of organic disease. Till date IBS has become a symptoms criteria based diagnosis, not a diagnosis of exclusion¹¹. Incomplete understanding the pathophysiology has hampered a diagnostic precision and absence of specific treatment. So patients consult one physician after another and are subjected to costly investigations. Unnecessary investigations not only involve cost but also increase the diagnostic uncertainty and heightens patients anxiety, frustration and monetary loss.³ Beginning in the late 1970s, investigators attempted to define IBS using symptoms based criteria derived from epidemiological surveys. In an attempt at greater precision of diagnosis, Manning et al¹² reported the prevalence of 15 symptoms in IBS and compared these with symptoms in patients with organic disease. (Table-I). They concluded that 6 cardinal symptoms discriminate the IBS from organic bowel disease.

Presence of two or more Manning criteria has been detected to have a sensitivity of 94% and a specificity of 55%, three or more has a sensitivity of 84% and specificity of 76%¹³. Kruis et al¹⁴, proposed another scoring system for positive diagnosis of IBS. There have been three Rome working team reports on diagnostic criteria for

IBS. The first report in 1988¹¹ was subsequently modified when a second Rome working team proposed a classification for all the functional gastrointestinal disorders¹⁵. A further update of Rome definition was published in 1992¹⁶. Another consensus conference took place in Rome in June 1988 with the aim to refine the current diagnostic criteria. The Rome I criteria (1992) recommended the diagnosis of IBS only in presence of main diagnostic criteria, that is, abdominal pain or discomfort associated with chronic altered bowel habit and two or more supportive criteria. In contrast, Rome II working team (1998) recommended that diagnosis of IBS is based on the presence of two of the three main diagnostic criteria alone (Table-II). The supportive criteria may then be used for further classification of IBS into diarrhoea predominant, constipation predominant or alternating bowel movements. A validation study of Rome criteria, after excluding patients with warning features, showed sensitivity of 63%, a specificity of 100%, and more importantly, a positive predictive value of 100% and a negative predictive value of 76%¹⁷.

Table-I: Discriminant value of symptoms in identifying the irritable bowel syndrome compared with organic bowel disease¹².

Manning criteria	Organic (%)	IBS (%)
Pain relieved after defecation	30	81
Looser stool at pain onset	27	81
More frequent stool at pain onset	30	74
Abdominal distension	21	53
Mucus per rectum	21	47
Feeling of incomplete emptying	33	59

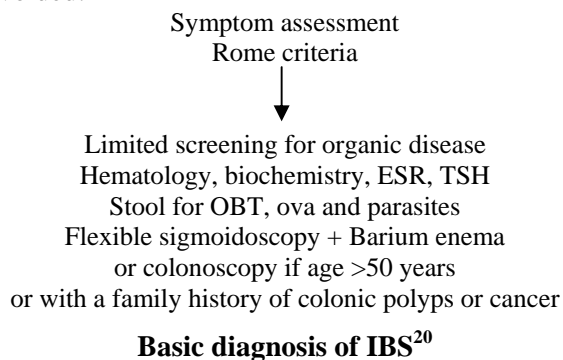
Table-II: Rome II criteria for irritable bowel syndrome¹⁸.

At least 12 weeks abdominal discomfort or pain (need not be consecutive) in the preceding 12 months, with two of the following three features:

- Relieved by defecation.
- Onset associated with stool frequency.
- Onset associated with change in stool form.

Diagnostic studies

If the symptoms suggestive of organic disease and physical findings are absent, then few investigations should be undertaken. The hemoglobin, white cell counts, erythrocyte sedimentation rate, flexible sigmoidoscopy and serum albumin should be done to exclude organic disease. Among others, needed for limited screening test are stool for ova and parasites. If over 40 years of age, barium enema preferably double contrast is prudent¹⁹. Other tests will depend upon patients' age, duration and nature of symptoms, unless indicated these should be avoided.

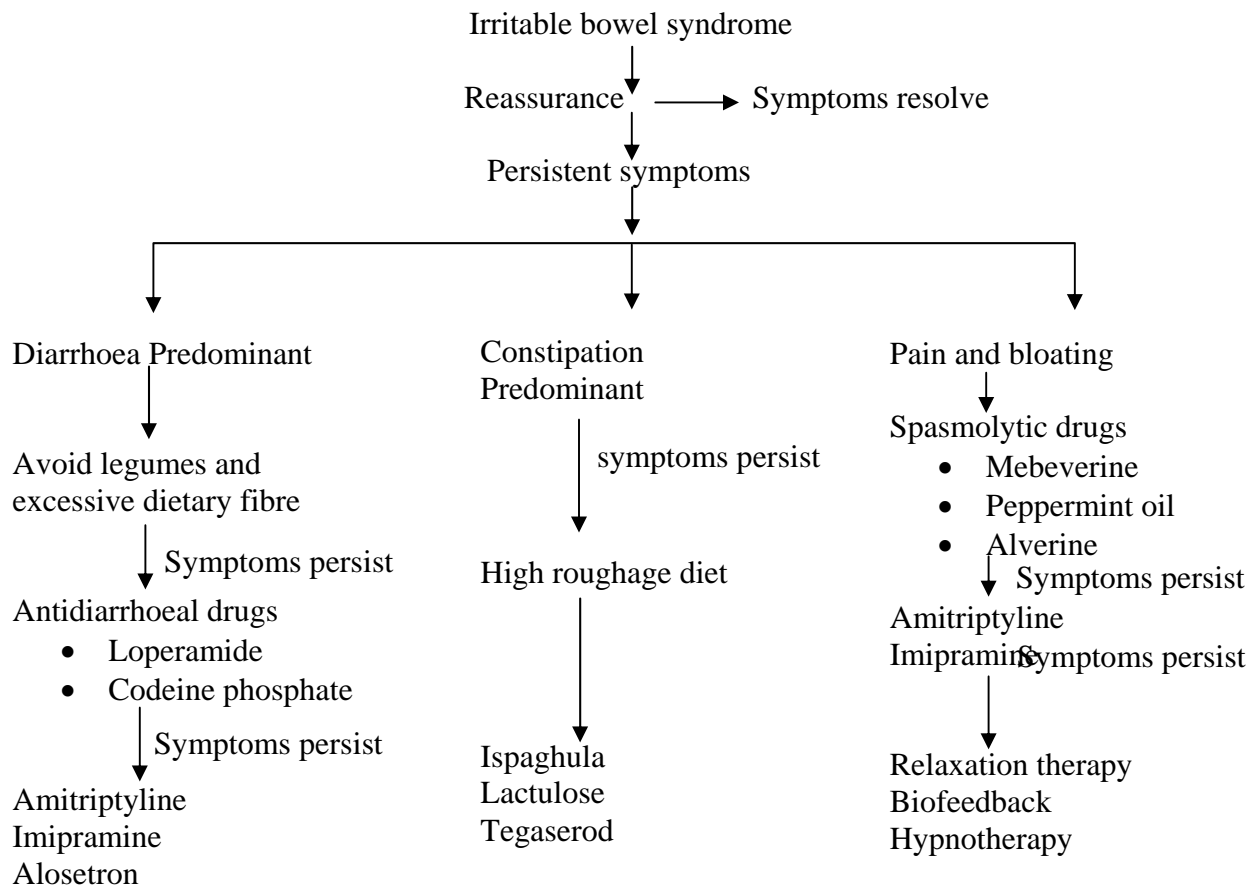


Management

Management of IBS involves positive diagnosis, limited exclusion of organic disease, and reassurance. The diagnosis of IBS is based on the identification of symptoms consistent with the syndrome and the exclusion of organic disease that have similar clinical presentations. A conservative management approach includes identification through symptom based criteria (e.g. Manning or Rome II criteria) and therapeutic trials. Recent reviews, endorsed by the Practice Committee of the American Gastroenterological Association, have suggested strategies for diagnosis and management of IBS¹. The first step is a careful assessment of the patient's symptoms. Manning or Rome criteria can be used in a proactive positive manner to raise the clinical suspicion of IBS. The absence of rectal bleeding is helpful in excluding organic disease. A thorough physical examination and a limited series of initial investigations are needed to exclude organic structural, metabolic, or infectious diseases.

Principles of management¹

1. Positive clinical diagnosis based on the history and physical examination.
2. Invasive investigations are to be minimized and avoid giving “mixed messages” don’t perform repeated testing without substantial indication.
3. Determine the patient’s agenda; ask why the patients with chronic symptoms have presented now.
4. Provide education and firm reassurance.
5. Try dietary modification, avoid milk and milk products.
6. Set realistic treatment goals and center therapy on adjustment to illness and patient-based responsibility for care.
7. Prescribe drugs sparingly, targeting the symptom(s) of most concern to the patient; remember the placebo response.
8. Consider behavioral treatments or psychotherapy for moderate to severe cases.
9. Organize a continuing care strategy.



Management of Irritable bowel syndrome²¹.

Prognosis

The majority of patients continues to be symptomatic intermittently, but up to 30% will spontaneously become asymptomatic over time for unknown reasons. Rest of the patients will visit physicians for subjective improvement, which may benefit their disease process. Follow-up of patients is therapeutic¹.

Summary and Conclusion

The clinical diagnosis of IBS is based on identifying symptoms criteria with a “positive diagnosis” and excluding the organic disease with minimal diagnostic workup. Additional diagnostic studies are based on symptom predominance and presence of warning features. Management depends on predominant symptoms and reassurance.

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All Correspondence to
M. A. Ahad
Assistant Professor,
Department of Gastroenterology,
Rajshahi Medical College,
Rajshahi.