Diagnosis of irritable bowel syndrome: A review
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Definition
Irritable bowel syndrome (IBS) is the best recognized functional gastrointestinal disorder characterized by chronic or recurrent abdominal pain associated with disturbed defecation and often bloating for at least 3 months. It is a highly prevalent disorder & reported prevalence rate varying from 17 to 22% in general population to 52% in outpatient population. It is the commonest diagnosis in gastrointestinal clinic & accounted for 50-70% work of gastroenterologist.

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 disorder primarily depend on clinical rather than laboratory data. IBS is considered as functional motility disorder and no endoscopic, radiographic & biochemical abnormality associated with its diagnosis. So diagnosis is often made by exclusion of organic disease. Till date IBS has become a symptoms criteria based diagnosis, not a diagnosis of exclusions. Incomplete understanding the patho-physiology 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 monitoriy loss. Beginning in the late 1970s, investigators attempted to define irritable bowel syndrome using symptoms based criteria derived from epidemiological surveys. In an attempt at greater precision of diagnosis, Manning et al reported the prevalence of 15 symptoms in IBS and compared these with symptoms in patients with organic disease. (Table-1). They concluded that six cardinal symptoms discriminated 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%. Kruis et al proposed another scoring systems for positive diagnosis of IBS. There have been three Rome working team reports on diagnostic criteria for IBS. The first report in 1988s was subsequently modified when a second Rome working team proposed a classification for all the functional gastrointestinal disorder. A further update of Rome definition was published in 1992. Another consensus conference took place in Rome in June 1998 with aim to refine the current diagnostic criteria. The Rome I criteria (1992) recommend the diagnosis of 185 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 11 working team (1998) recommend that diagnosis of 185 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 185 into diarrhea-predominant for constipation predominant. A validation study of the 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%

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Table 1: Discriminant value of symptoms in identifying the Irritable bowel syndrome compared with organic bowel disease

<table>
<thead>
<tr>
<th>Manning criteria</th>
<th>Organic(%)</th>
<th>IBS(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain relieved after defection</td>
<td>30</td>
<td>81</td>
</tr>
<tr>
<td>Looser stool at pain onset</td>
<td>27</td>
<td>81</td>
</tr>
<tr>
<td>More frequent stool at pain onset</td>
<td>30</td>
<td>74</td>
</tr>
<tr>
<td>Abdominal distension</td>
<td>21</td>
<td>53</td>
</tr>
<tr>
<td>Mucus per rectum</td>
<td>21</td>
<td>47</td>
</tr>
<tr>
<td>Feeling of incomplete emptying</td>
<td>33</td>
<td>59</td>
</tr>
</tbody>
</table>

Table 2: Rome II criteria for irritable bowel syndrome

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 defection
- Onset associated with stool frequency
- Onset associated with change in stool form

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, abdominal lump and symptoms awakening patients 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 of the diagnosis of IBS.

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

a) 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.
b) Demographic features: IBS is more common in women & younger age.
c) The referral status of patients: Patient seen in primary health care setting are less likely to require extensive investigation.
d) Previous diagnostic evaluation.
e) A history of colon cancer in the family.
f) The nature & extent of psychological difficulty.

Clinical presentation - Abdominal pain

Abdominal pain and disturbed defecation are characteristics of IBS & required to make a diagnosis of IBS. The intensity and location of pain is highly variable. Pain is often precipitated by meal and relieved 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 diarrhea.

Altered bowel habit

A change in bowel habit is the key element of IBS. The disturbance of bowel function is gradually progressive, eventually developing a characteristic pattern, most commonly alternating constipation and diarrhea, with either predominating. In constipation predominant IBS stool are usually hard, often stool caliber is narrow, pencil-thin or ribbon-like due to colonic or rectal spasm. The diarrhea 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 attempt to stool passage over a short period of time.
**Abdominal distension, belching, flatus**

Bloating or perceived abdominal distension is a common complaint of IBS. Belching and excessive flatus is also commonly reported. Quantitative measurement reveals that most patients who complain of increased gas, bloating, flatulence generate a normal amount of intestinal gas¹⁷.

**Non colonic and extra intestinal symptoms**

IBS is accompanied by numerous symptoms referable to other section of gastrointestinal tract or abdominal organs. Dyspepsia, heartburn, pyrosis, nausea and vomiting appear in 25 to 50 percent of patients¹⁸. Urinary symptoms have been reported in 33 to 50 percent patients and sexual dysfunction including dyspareunia & inhibited sexual desire has also been shown to be 5 to 15 times more common in patients with IBS¹⁸.

**Physical examination**

A physical examination should be performed on the first clinical visit and on subsequent visits as recorded. Although the presence of a 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 of hands also provides reassurance to the patients.

**Diagnostic screen**

If the symptoms suggestive of organic disease and physical findings are absent, then few investigation 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, a 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.

**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.

**References**

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Review Article

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