Review

Irritable Bowel Syndrome in 2011: Current Concepts

Paul Mintchev and Christopher N. Andrews, MD, MSc, FRCPC

Presented at the University of Calgary's Evening Course Program: Irritable Bowel Syndrome: Diagnosis and Treatment, January 2011

Irritable bowel syndrome (IBS) is the most commonly diagnosed gastrointestinal (GI) condition in both primary care and gastroenterologists' practices. The predominant symptom is abdominal pain or discomfort, which is typically improved after defecation. A clear understanding of the syndrome can lead to better management and quality of life for IBS patients and reduce resource utilization.

Etiology

IBS is a functional disorder, meaning a disorder of normal GI function in the absence of organic disease. A single unifying etiology for the syndrome is unlikely to be found, but most research suggests that peripheral and central sensitization to sensory output from the gut may play a role. This visceral hypersensitivity state is similar to other chronic pain disorders elsewhere in the body, such as fibromyalgia or chronic headaches, which may co-exist in some patients. Disturbed gut motility is present but is generally not the primary etiology. Alterations in bowel flora have also been identified in IBS patients. The inciting causes are diverse and may include infectious gastroenteritis, diverticulitis, or abdominal surgeries; however, most commonly, no precipitating factor is identified. Psychosocial factors such as stress or anxiety often worsen IBS symptoms. However, stress and anxiety alone are not the cause of IBS.

Diagnosis

Diagnosis of IBS is based on typical symptoms in the absence of organic disease. However, the conception that IBS is strictly a diagnosis of exclusion is outdated. The vast majority of IBS

Table 1
Rome III Criteria for Diagnosis of Irritable Bowel Syndrome (IBS)

Recurrent abdominal pain or discomfort* at least 3 days per month in the last 3 months associated with ≥ 2 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

*Symptoms must be present for > 6 months duration.

Table 2
"Red Flag"* or Alarm Features

- Weight loss
- Anemia
- Fever
- Night symptoms
- Age of onset >50
- Rectal Bleeding
- Continuous diarrhea
- Areas with endemic gut disease (*e.g.* Giardia lamblia)
- Family History of colorectal cancer, inflammatory bowel disease, or celiac disease

* "Red Flag" features indicate the likelihood of an alternative or co-existing condition to IBS.

diagnoses can be made with confidence by primary care physicians without exhaustive testing.

The main feature of IBS is pain or discomfort, which is associated with changes in bowel habits. The Rome III criteria define IBS from a formal perspective (Table 1), but the strict criteria may not be as useful in primary care, where patient symptoms may overlap a number of functional disorders (for example, dyspepsia, IBS, and heartburn symptoms may be present in the same patient).

The changes in bowel habits in IBS include diarrhea, constipation, or a combination of the two. Pain is often improved after a bowel movement. Other symptoms can include nausea, gas, or bloating. While discomfort related to the bowels remains the central theme, the symptom pattern may change over time. Patients should be screened for any alarm symptoms (Table 2), and tested appropriately if present. A physical exam is usually normal.

Testing

The extent of testing for IBS is determined by the patient's presentation and age. Young patients with a typical history, especially those with alternating symptoms, require little testing. Patients with diarrheal symptoms or older patients with recent onset symptoms should be worked-up more substantially. For example, inflammatory bowel disease (ulcerative colitis and Crohn's disease) can also present with symptoms of diarrhea and pain similar to IBS. In older populations, pain and constipation may sometimes be due to tumours or bowel cancer. Recent guidelines from the United Kingdom suggest that the highest yield tests to check in patients with suspected IBS are celiac serology and a complete blood count (Table 3). Others

Table 3
Investigation for Typical IBS

- Complete blood count
- Celiac serology

Consider depending on symptoms and severity:

- Stool culture, C. difficile, ova and parasites
- Thyroid-stimulating hormone
- Calcium level
- Barium small bowel follow-through
- Barium enema
- Flexible sigmoidoscopy or colonoscopy

may be appropriate depending on the clinician's judgment. Stool tests, barium studies, or CT scans may be appropriate given the clinical context, as well as referral for endoscopy, but they are not required in most instances in primary care.

Management

Optimal IBS management starts with patient education. Studies have suggested that repeat visits can be reduced if patients are informed about the nature of IBS and understand what to expect. The concept of visceral hypersensitivity is useful to guide understanding of the disorder, by clearly framing the problem as a legitimate gut problem, rather than a psychiatric issue.

Food intolerances are common in patients with IBS, but they are not felt to be the primary cause of the disorder. Diets low in FOODMAPs (Fermentable Oligo-, Di-, and Mono-saccharides and Polyols) have been shown to decrease gas formation and liquid content in the bowel, which can lead to reduced bloating and discomfort. FOODMAPs are found in dairy products and many legumes, among other foods.

Much interest has accompanied a recent study in IBS patients of a non-absorbable oral antibiotic (not available in Canada) which purports to treat small bowel bacterial overgrowth. The biological rationale for overgrowth in IBS is controversial and the long-term safety of large-scale use

Table 4
Symptom-Based Therapy for IBS

Pain
- Antispasmotics as needed
  - -Hyoscine
  - -Dicyclomine
  - -Pinaverium
- Tricyclic antidepressant (low dose)
- Selective serotonin reuptake inhibitor
- Anxiolytics (as needed)

Bloating
- Anti-gas (simethicone)
- May respond to prokinetic medications or tricyclics

Constipation
- Fibre supplements
- Osmotic laxatives
- GI stimulants (to be used sparingly)
  - -Bisacodyl
  - -Senna
  - -Cascara

Diarrhea
- Loperamide
- Diphenoxylate and atropine
- Antispasmodics regularly
- Cholestyramine

of antibiotics in this population is unknown. Treatment for IBS is otherwise predominantly symptom-based (Table 4) and should start with conservative measures (*e.g.*, fibre supplementation for constipation). Worsening symptoms, alarm features, or severe comorbidities should prompt a referral to a gastroenterologist and can merit escalation of therapy. Dx

References
1. Longstreth GF, Thompson WG, Chey WD, et al: Functional Bowel Disorders. Gastroenterology 2006; 130(5):1480–91.
2. Spiller R, Aziz Q, Creed F, et al: Guidelines on the Irritable Bowel Syndrome: Mechanisms and Practical Management. Gut 2008; 57(12):1770–1798.
3. Pimentel M, Lembo A, Chey WD, et al: Rifaximin Therapy for Patients with Irritable Bowel Syndrome without Constipation. N Engl J Med 2011; 364(1):22–32.
4. Raman M, Sirounis A, Shrubsole J. The Complete IBS Health And Diet Guide: Includes Nutrition Information, Meal Plans And Over 100 Recipes For Irritable Bowel Syndrome. Robert Rose, Toronto, 2011.

Dr. Andrews is an Assistant Professor of Medicine at the University of Calgary and Consultant Gastroenterologist at Foothills Hospital, Calgary, where he specializes in gut motility disorders.

Mr. Mintchev is an Undergraduate Student in the Faculty of Science at McGill University, Montreal, Quebec.