Irritable bowel syndrome (IBS), or spastic colon, is a syndrome with numerous symptoms, and is associated with abdominal colicky pain and disturbed gastrointestinal functioning (constipation or diarrhoea, or a fluctuation between both) in the absence of organic disease. Previously it was considered to be a diagnosis of exclusion. There is no single confirmatory test and no specific cure for IBS. Several diagnostic criteria exist that evaluate symptoms and their duration, for example, the Manning and Rome criteria, but they are not always helpful in practice because of complex interactions between IBS and chronic pain syndromes. The condition is extremely common, especially in young adults, but symptoms can occur at any age. Emotion and stress are aggravating factors. Lifetime prevalence is estimated to be approximately 20%, but most patients never consult a medical practitioner. Treatment should be tailored to individual symptoms with dietary changes, exercise, psychotherapy and medication (e.g. bulk-forming laxatives, antispasmodics, antibiotics, probiotics and/or agents active at serotonin receptors). The pharmacist has an important supportive role to play in the optimal management of IBS.

Abstract
Irritable bowel syndrome (IBS), or spastic colon, is a syndrome with numerous symptoms, and is associated with abdominal colicky pain and disturbed gastrointestinal functioning (constipation or diarrhoea, or a fluctuation between both) in the absence of organic disease. Previously it was considered to be a diagnosis of exclusion. There is no single confirmatory test and no specific cure for IBS. Several diagnostic criteria exist that evaluate symptoms and their duration, for example, the Manning and Rome criteria, but they are not always helpful in practice because of complex interactions between IBS and chronic pain syndromes. The condition is extremely common, especially in young adults, but symptoms can occur at any age. Emotion and stress are aggravating factors. Lifetime prevalence is estimated to be approximately 20%, but most patients never consult a medical practitioner. Treatment should be tailored to individual symptoms with dietary changes, exercise, psychotherapy and medication (e.g. bulk-forming laxatives, antispasmodics, antibiotics, probiotics and/or agents active at serotonin receptors). The pharmacist has an important supportive role to play in the optimal management of IBS.
Epidemiology

IBS is a prevalent condition that can significantly impair health-related quality of life and reduce work productivity. Its prevalence in the general population is estimated to be between 10-20%. IBS is 1.5 times more common in women, than in men. The prevalence of IBS varies between countries, and between cultures. IBS tends to begin in the teenage years or in the twenties (usually the age of onset is younger than 40 years), causing bouts of symptoms that recur at irregular periods. Onset later in adult life is less common, but not rare. Recent trends indicate a significant prevalence in older people. Compared to people without IBS, IBS patients make more visits to their medical practitioners, undergo more diagnostic tests, are prescribed more medicine, miss more workdays, have lower work productivity, are hospitalised more frequently, and account for greater overall direct costs.

Aetiology and pathophysiology

The exact cause of IBS is unknown. No anatomical cause has been found, although there are indications of a generalised smooth muscle abnormality, or a psychological origin. Traditional theories regarding the pathophysiology of IBS centre around altered gastrointestinal motility, visceral hyperalgesia and hypersensitivity and psychopathology. There are no consistent motility abnormalities in IBS. Some patients have abnormal gastric reflexes, with delayed, prolonged colonic activity. There may be reduced gastric emptying, or disordered jejunal motility. Some patients have no demonstrable abnormalities, and in those that do, these may not correlate with symptoms. Small bowel transit also varies. Hypersensitivity to normal amounts of intraluminal distension, and heightened perception of pain in the presence of a normal quantity of intestinal gas, exist. Pain seems to be caused by abnormally strong contractions of the intestinal smooth muscle, or by increased sensitivity of the intestine to distension. Hypersensitivity to the hormones, gastrin and cholecystokinin, may also be present. However, hormonal fluctuations do not correlate with symptoms. Meals of high caloric density may increase the magnitude and frequency of myoelectrical activity and gastric motility. Fat ingestion may cause a delayed peak of motor activity, which can be exaggerated in IBS. The first few days of menstruation can lead to transiently elevated prostaglandin E₂, resulting in increased pain and diarrhoea, probably by the release of prostaglandins. Excess mucus production, which often occurs in IBS, is not related to mucosal injury. Its cause is unclear, but may be related to cholinergic hyperactivity.

Psychopathology is another aspect. Associations between psychiatric disturbances and IBS are not clearly defined. Because the autonomic nervous system is involved, stress, anxiety, tension and depression can precipitate the condition. Some patients have psychological disorders, particularly panic disorder, major depression or anxiety disorder. Emotional factors, diet, medication or hormones may precipitate or aggravate the gastrointestinal symptoms. However, stress and emotional conflict do not always coincide with symptom onset and recurrence. Some patients with IBS appear to have learned abnormal illness behaviour, for example, they express emotional conflicts as a gastrointestinal complaint, and usually as abdominal pain. When evaluating patients with IBS, especially those with refractory symptoms, the medical practitioner should investigate unresolved psychological issues, including the possibility of childhood sexual or physical abuse. Microscopic colonic and small bowel inflammation have been discovered in patients with IBS. Enterocodocrine cells in patients with postinfectious IBS appear to secrete high levels of serotonin and other colonic secretions, that possibly leads to diarrhoea. Small bowel bacterial overgrowth can cause symptoms of bloating and distension, leading to proposed treatments with probiotics and antibiotics. Therefore, there is the possibility of an alteration in the patterns and contents of gut flora, based on studies on faecal microflora.

Symptoms and signs

People with IBS often present to primary care with a wide range of symptoms, some of which they may be reluctant to disclose without sensitive questioning. IBS may manifest in a number of ways, but urgent early morning diarrhoea is a classical presentation. Symptoms and signs of IBS include abdominal pain related to, or relieved by, defecation, change in stool frequency or consistency, abdominal distension, mucus in the stool, and the sensation of incomplete evacuation after defecation. In general, the character and location of pain, precipitating factors and defecatory pattern are distinct for each patient. Symptoms are chronic, lasting longer than six months, and are exacerbated by stress, menstruation or gastroenteritis (typical post-infection IBS). Symptoms can be triggered by stress or food, but they rarely awaken a sleeping patient.

Other commonly associated symptoms include lethargy, nausea, backache and bladder symptoms. Variations or deviations from the usual symptoms may suggest intercurrent disease (a disease occurring at the same time, and that usually alters the course of the other disease), and this should be thoroughly investigated. Patients with IBS may also have extra-intestinal symptoms, for example, fibromyalgia, headaches, dyspareunia and temperomandibular joint syndrome.

Two major clinical types of IBS have been identified, namely constipation-predominant and diarrhoea-predominant IBS.

Constipation-predominant IBS

In constipation-predominant IBS, most patients have pain over at least one area of the colon, and experience periods of constipation, alternating with a more normal stool frequency. The stool often contains clear or white mucus. Pain is either colicky, coming in bouts, or experienced as a continuous dull ache. It may be relieved by a bowel movement. Eating commonly triggers symptoms. Bloating, flatulence, nausea, dyspepsia and pyrosis can also occur.
Diarrhoea-predominant IBS

Diarrhoea-predominant IBS is characterised by precipitous diarrhoea that occurs immediately on rising, or during or immediately after eating. Nocturnal urgency is common, and encopresis (incontinence of faeces) may occur. Painless diarrhoea is not typical, and should lead the medical practitioner to consider other diagnostic possibilities, for example, malabsorption or osmotic diarrhoea.

Diagnosis

Diagnosis is based on characteristic bowel patterns, and exclusion of other disease processes through physical examination and routine diagnostic tests. Diagnostic testing should be more intensive when “red flags” are present.

Common illnesses that may be confused with IBS include lactose intolerance, diverticular disease, drug-induced diarrhoea, biliary tract disease, endometriosis, laxative abuse, parasitic diseases, bacterial enteritis, eosinophilic gastritis or enteritis, microscopic colitis, and early inflammatory bowel disease (Crohn’s disease or ulcerative colitis). Hyperthyroidism, cancer of the thyroid and Zollinger-Ellison syndrome are additional possibilities in patients with diarrhoea. The bimodal age distribution of patients with inflammatory bowel disease makes it important to evaluate both younger and older patients. Patients with constipation and no anatomic lesion should be evaluated for hypothyroidism and hyperparathyroidism. Other possibilities are malabsorption conditions such as coeliac disease, an autoimmune disorder of the small intestine, and elimination disorders, especially in patients with constipation who report excessive straining on defecation.

History

The character of the pain, bowel habits, familial interrelationships, medication and dietary history should be taken. The patient’s interpretation of personal problems and overall emotional state should also be considered. The quality of the patient-medical practitioner interaction is important to ensure diagnostic and therapeutic efficacy.

Diagnostic criteria

The Manning or Rome II/III criteria are usually used in the diagnosis of IBS. These diagnostic criteria evaluate IBS symptoms and their duration. They are useful, but not always helpful in practice, because of complex interactions between IBS and chronic pain syndromes.

Manning criteria

The Manning criteria were first formulated in 1978. Manning et al established six criteria to distinguish IBS from other organic bowel diseases.

The Manning criteria are as follows:

- Onset of pain is associated with more frequent bowel movements.
- Onset of pain is associated with looser bowel movements.
- Pain is relieved by defecation.
- Visible abdominal bloating.
- Subjective sensation of incomplete evacuation more than 25% of the time.
- Mucorrhoea (mucus in the stools) more than 25% of the time.

IBS is usually diagnosed if three or more criteria are present, and the likelihood of IBS is proportional to the number of criteria that are present.

Rome criteria

The Rome III criteria symptoms are standardised symptom-based criteria, which were developed to classify functional gastrointestinal disorders based on clinical symptoms. Each disorder has its own set of criteria. The Rome criteria were established in 1992, and subsequently revised in 1999 and 2006.

The Rome criteria for IBS are as follows: symptoms of recurrent abdominal pain or discomfort that persist for 12 or more weeks, with onset at least six months prior to diagnosis, and including at least two of the following:

- Pain is relieved by a bowel movement.
- Onset of pain is associated with a change in the frequency of the stool.
- Onset of pain is associated with a change in the appearance (form) of the stool.

Symptoms that cumulatively support the diagnosis of IBS are:

- Abnormal stool frequency. In theory, this is defined as more than three bowel movements per day, or three or fewer per week.
- Abnormal stool form (lumpy and hard or loose and watery).
- Abnormal stool passage (straining, urgency or the feeling of incomplete evacuation).
- Passage of mucus.
- Bloating, or feeling of abdominal distension.

IBS subtypes

In some literature sources, IBS is subtyped according to the predominant stool pattern (see Table I below).

<table>
<thead>
<tr>
<th>Table I: Subtyping irritable bowel syndrome by predominant stool pattern</th>
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<tbody>
<tr>
<td><strong>IBS subtype</strong></td>
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<tr>
<td>------</td>
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<tr>
<td>1</td>
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<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
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</tbody>
</table>

a = irritable bowel syndrome with constipation, b = irritable bowel syndrome with diarrhoea, c = mixed irritable bowel syndrome
The usefulness of these subtypes is debatable. It is estimated that within one year, 75% of patients typically change subtypes.

**The Bristol Stool Form Scale**

The Bristol Stool Form Scale is used to classify stools into seven different types. Figure 1 shows the Bristol Stool Form scoring system, with both visual illustrations and verbal descriptions, which are easy for patients to use to describe their stool consistency.

**Type 1**
Separate hard lumps, like nuts

**Type 2**
Sausage shape but lumpy

**Type 3**
Like sausage, but with cracks on surface

**Type 4**
Like sausage or snake, smooth and soft

**Type 5**
Soft blobs with clear-cut edges

**Type 6**
Fluffy pieces with ragged edges, a mushy stool

**Type 5**
Watery, no solid pieces entirely liquid

(Source: http://www.nature.com/ajg/journal/v105/n4/fig_tab/ajg201069f2.html#figure-title)

**Figure 1:** The Bristol Stool Form Scale

**Physical examination**

Patients generally appear to be healthy. Palpation of the abdomen may reveal tenderness, particularly in the left lower quadrant, at times associated with a palpable, tender sigmoid. A digital rectal examination, including a test for occult blood, should be performed on all patients. In women, a pelvic examination helps to rule out ovarian tumours, cysts or endometriosis, which may mimic IBS.

**Testing**

Proctosigmoidoscopy can be performed. The introduction of the sigmoidoscope and air insufflation often trigger bowel spasm and pain. The mucosal and vascular patterns in IBS usually appear to be normal. Colonoscopy is preferred in patients over 40 years with a change in bowel habits, particularly those with no previous IBS symptoms, to exclude colonic polyps and tumours. In patients with chronic diarrhoea, particularly older women, mucosal biopsy can rule out possible microscopic colitis.

Many patients with IBS are overtested. The decision on how many tests to perform is based on clinical judgement that weighs the risks of investigation against the possibility of serious disease. The decision taken as to the type and number of tests is also based on the patient’s age, the family history, length of history and symptom cluster.

Laboratory studies do not aid diagnosis in patients who meet the Rome criteria who have no other signs or symptoms suggestive of another aetiology. If symptoms are inconclusive, examples of tests that can be conducted include full blood count, erythrocyte sedimentation rate or plasma viscosity, C-reactive protein, and antibody testing for coeliac disease or tissue transglutaminase.

Additional studies, such as ultrasound, sigmoidoscopy, colonoscopy or barium enema, thyroid function test, faecal ova and parasite tests, faecal occult blood, and a hydrogen breath test, should be undertaken only when there are other objective abnormalities. Stool cultures, to exclude gastrointestinal infection if there is diarrhoea, are rarely indicated without a travel history and supporting symptoms, for example, fever, bloody diarrhoea or the acute onset of severe diarrhoea. A laparoscopy can be done to exclude endometriosis.

**Intercurrent disease**

Patients may develop additional gastrointestinal disorders. Changes in symptoms, for example, in the location, type or intensity of pain, in bowel habits, and in constipation and diarrhoea, and new symptoms or complaints, for example, nocturnal diarrhoea, may signal another disease process.

Other symptoms that require investigation include fresh blood in the stool, weight loss, very severe abdominal pain or unusual abdominal distension, steatorrhoea (the presence of excess fat in the faeces), or noticeably foul-smelling stools, fever or chills, persistent vomiting, haematemesis, symptoms that wake the patient from sleep (e.g. pain, or the urge to defecate), and a steady progressive worsening of symptoms. Patients who are older than 40 years are more likely than younger patients to develop an intercurrent illness.

**When to refer**

Red flags for referral are:

- If the pain is so severe that the patient refuses food.
- If symptoms do not improve after one week of treatment.
- If any possibility of organic disease exists.
- If the diagnosis is unsure.
- If the symptoms suddenly change in a patient with “known IBS”.

General guidelines for referral are:

- Refer to a surgeon if there is rectal mucosal prolapse.
- Refer to a dietitian if there is food intolerance.
- Refer to a counsellor if there is marked stress or depression (seen in over 50% of patients with IBS).
understanding, guidance, explanation and reassurance are
and a pragmatic approach should be used. Sympathetic
specific treatment. Therapy should be supportive and palliative,
Because the aetiology of IBS is largely unknown, there is no
psychological support and recommending dietary measures.
Management of IBS consists primarily of providing

Alarm factors are signs or symptoms that require immediate
attention and careful diagnostic evaluation to exclude
diagnoses other than IBS. These factors, and other less urgent
symptoms that may lead to a diagnosis other than IBS, are
summarised in Table II.

Table II: Signs and symptoms suggesting alternative diagnosis
to irritable bowel syndrome

<table>
<thead>
<tr>
<th>Signs or symptoms</th>
<th>Suggested diagnosis</th>
</tr>
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<tbody>
<tr>
<td><strong>Alarm factors</strong></td>
<td></td>
</tr>
<tr>
<td>Anaemia</td>
<td>Cancer, IBD</td>
</tr>
<tr>
<td>Chronic severe diarrhoea</td>
<td>Cancer, infection, IBD</td>
</tr>
<tr>
<td>Family history of colon cancer</td>
<td>Cancer</td>
</tr>
<tr>
<td>Hematochezia, melena,</td>
<td>Cancer, arteriovenous</td>
</tr>
<tr>
<td>or other signs of intestinal</td>
<td>malformation, colonic</td>
</tr>
<tr>
<td>bleeding</td>
<td>polyps, IBD</td>
</tr>
<tr>
<td>Recurrent fever</td>
<td>Infection, IBD</td>
</tr>
<tr>
<td>Weight loss, especially if over</td>
<td>Cancer, IBD</td>
</tr>
<tr>
<td>40 years and male</td>
<td></td>
</tr>
<tr>
<td><strong>Other signs and symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>Travel to areas with endemic</td>
<td>Infection</td>
</tr>
<tr>
<td>parasitic diseases</td>
<td></td>
</tr>
<tr>
<td>Family history of colon cancer, bIBS, coeliac disease</td>
<td>Cancer, coeliac disease</td>
</tr>
<tr>
<td>Signs or symptoms of</td>
<td>Coeliac disease</td>
</tr>
<tr>
<td>malabsorption</td>
<td></td>
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<tr>
<td>Night-time symptoms, e.g.</td>
<td>Infection, trauma</td>
</tr>
<tr>
<td>encopresis</td>
<td></td>
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<tr>
<td>Onset after 50 years of age</td>
<td>Cancer</td>
</tr>
<tr>
<td>Arthritis</td>
<td>Arthritis</td>
</tr>
<tr>
<td>Thyroid dysfunction</td>
<td>Hypothyroidism,</td>
</tr>
<tr>
<td></td>
<td>hyperthyroidism</td>
</tr>
</tbody>
</table>

a = inflammatory bowel disease, b = irritable bowel syndrome

Treatment
Management of IBS consists primarily of providing
psychological support and recommending dietary measures.
Because the aetiology of IBS is largely unknown, there is no
specific treatment. Therapy should be supportive and palliative,
and a pragmatic approach should be used. Sympathetic
understanding, guidance, explanation and reassurance are

Psychological support and exercise
From a psychological point of view, the positive aspects of the
prognosis should be emphasised. In 50% of patients, symptoms
disappear or improve after one year. In less than 5% of patients,
symptoms worsen. In the rest of patients, symptoms are still
troublesome after five years. Psychological stress, anxiety or
mood disorders should be identified, evaluated and treated.
Cognitive-behavioural therapy and gut-focus hypnotherapy
have been used. It is important that the patient knows that all
forms of stress, including sexual, physical or verbal abuse, can
perpetuate IBS. Regular physical activity helps relieve stress
and assists in bowel function, particularly in patients with
constipation.

Dietary advice
A normal diet should be followed. The following general advice
is recommended by the National Institute for Health and Clinical
Excellence (NICE):  

- Have regular meals and take time to eat.
- Avoid missing meals, or leaving long gaps between eating.
- Drink at least eight glasses of fluid per day, especially water,
or other non-caffeinated drinks, for example, herbal teas.
- Restrict tea and coffee to three cups per day.
- Reduce the intake of alcohol and carbonated drinks.
- Limit the intake of high-fibre food and “resistant starch”
(starch that resists digestion in the small intestine, and
reaches the colon intact).
- Limit fresh fruit to three portions per day.

Meals should not be overly large, and the person should eat
slowly. Exclusion or food-avoidance diets may be tried. A
food diary may help to identify foods that provoke symptoms.
Common trigger factors are dairy products, citrus fruits, caffeine,
alcohol, tomatoes, gluten and eggs. Patients with abdominal
distension and increased flatulence may benefit from reducing
or eliminating beans, cabbage and other foods that contain
fermentable carbohydrates. Reduced intake of apple and grape
juice, bananas, nuts and raisins may also lessen the incidence of
flatulence. Patients with evidence of lactose intolerance should
reduce their intake of milk or dairy products. Bowel function
may also be disturbed by the intake of sorbitol, mannitol or
fructose. Patients with postprandial abdominal pain could try a low-fat diet, supplemented with increased protein.

Therapy generally includes a high-fibre diet, and may benefit patients with either constipation or diarrhoea. Dietary fibre may help patients by absorbing water and solidifying the stool. Yet for some patients with IBS, foods that are high in fibre and whole grains should best be avoided, because excessive intake of fibre can lead to bloating and diarrhoea, and therefore exacerbate symptoms. Fibre doses must therefore be adjusted to individual needs. Patients with bloating may find it helpful to eat oats and linseeds.

Pharmacological treatment

Specific pharmacological treatment remains symptom directed. For example, agents used to manage IBS symptoms include anticholinergics, antidiarrhoeals, tricyclic antidepressants, prokinetics, bulk-forming laxatives and serotonin receptor antagonists. Pharmacological therapy is rarely indicated, except for short-term use during acute episodes.

For patients with constipation-predominant IBS, usually the advice is to increase their fibre intake slowly, since fibre can paradoxically worsen flatulence and bloating, and they should avoid insoluble fibre. A bland bulk-producing agent may be used and supplemented with increased fluid intake. Psyllium hydrophilic mucilloid with water may be taken, as well as ispaghula husk or methylcellulose. Products containing non-fermentable fibre are better than lactulose which ferments: the increased gas production is hard to distinguish from bloating. Serotonin receptor modulation may be of benefit. The 5-HT₄ agonists, tegaserod and prucalopride, may help patients with constipation.

For patients with diarrhoea-predominant IBS, usually the advice is to avoid sorbitol and to try a bulk agent with, or without, loperamide 2 mg after each loose stool (a maximum of 16 mg per day). Loperamide should be the first-choice antimitility agent to treat diarrhoea in people with IBS. The side-effects of loperamide include colic, nausea, dizziness, constipation, bloating and intestinal obstruction. 5HT₃ antagonists, for example, alosetron, may benefit female patients with diarrhoea. Bismuth has also been tried, but its side-effect is dark stools. Codeine phosphate should be avoided since it may cause dependence. In patients with diarrhoea, oral diphenoxylate 2.5-5 mg or loperamide 2-4 mg may also be given before meals. However, chronic use of antidiarrhoeals is discouraged, because tolerance to the antidiarrhoeal effect may occur.

For pain and colic or distension (bloating), anticholinergics or other antispasmodic agents, for example, dicyclomine and mebeverine, may be given, but the long-term benefit of such agents is doubtful. Antispasmodics (mebeverine 135 mg every eight hours) can be given, or alverine citrate (60-120 mg every eight hours), or dicycloverine (10-20 mg every eight hours).

Anticholinergic drugs (for example, hyoscyamine 0.125 mg 30-60 minutes before meals) may be taken for their antispasmodic effect. New selective M₃ muscarinic receptor antagonists, including zamifenacin and darifenacin, have fewer cardiac and gastric effects.

Dyspeptic symptoms may respond to metoclopramide or antacids.

For many patients, tricyclic antidepressants, for example, desipramine, imipramine or amitriptyline, help relieve the symptoms of constipation, diarrhoea, abdominal pain and

<table>
<thead>
<tr>
<th>Mild</th>
<th>Constipation-predominant IBS</th>
<th>Diarrhoea-predominant IBS</th>
<th>Pain-predominant IBS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Education, reassurance, stress management, and relaxation techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guar gum, fibre, exercise, increased fluid intake</td>
<td>Trial diet excluding lactose and caffeine; other dietary changes</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>Antispasmodic agent, peppermint, osmotic laxatives</td>
<td>Loperamide, antispasmodic agent, peppermint</td>
<td>Antispasmodic agent, tricyclic antidepressant</td>
</tr>
<tr>
<td>Severe</td>
<td>Tricyclic antidepressant, psychotherapy, sedative with antispasmodic agent</td>
<td>5-HT₄ antagonist (legaserod)</td>
<td>5-HT₃ antagonist (alosetron)</td>
</tr>
</tbody>
</table>

5-HT₄ = serotonin receptor subtype 5-hydroxytryptamine-3
5-HT₃ = serotonin receptor subtype 5-hydroxytryptamine-4

Figure 2: Algorithm for the management of a patient with irritable bowel syndrome

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bloating. These medicines are thought to reduce pain by downregulating the activity of the spinal cord and cortical afferent pathways arriving from the intestine. Selective serotonin reuptake inhibitors (SSRIs) are less effective, unless the patient is overtly depressed. They should be withdrawn if there is no response after four to six weeks.

There is some evidence that probiotics may help some IBS patients. At least a four-week trial of treatment can be tried, while monitoring the effect.

Finally, certain aromatic oils (carminatives) can relax smooth muscle, and relieve pain caused by cramps in some patients. Peppermint oil is the most commonly used agent in this class.

Reviews of herbal medicines suggest that they have a positive effect on the control of IBS symptoms, but evidence is limited, and not sufficient to make recommendations. The use of acupuncture and reflexology to treat IBS should not be encouraged, neither should the use of aloe vera.
The future treatment of IBS may include modulating the brain-gut axis by neurotransmitter manipulation. Patients with IBS also have lower visceral pain thresholds. The increased use of amitriptyline and SSRIs is now advocated.

A basic algorithm for the management of a patient with IBS is given in Figure 2. The NICE algorithm for IBS is given in Figure 3.

Conclusion

IBS is a complex condition of unknown aetiology. Despite its benign nature, it significantly affects the quality of patients’ lives. Patient education remains the cornerstone of the successful treatment of IBS. The patient should be educated to acknowledge stressors, and to develop coping techniques in response to these. Patients with IBS should be encouraged to move away from the perception of being “patients” (passive recipients of suffering) to become individuals who have symptoms that can be controlled by pharmacological and nonpharmacological means. The pharmacist has an important role to play in assisting the patient with the optimal management of IBS.

References