

# Irritable Bowel Syndrome

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*'A good set of bowels is worth more than any quantity of brain' – Josh Billing (Henry Wheeler Shaw 1818–1885)*

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## Introduction

If there was a popularity 'hit list' of various bodily organs, bowels wouldn't rate very highly. Patients not infrequently commiserate with my job as a gastroenterologist dealing with parts of the body 'one doesn't talk about'. And yet the gut is a marvellous organ: it's big – the size of a football field if stretched out – and has the body's largest absorptive surface area exposed to foreign material. It is a major player of the immune system and has a neural wiring system that in size and complexity matches the spinal cord.

The gut has the dual function of selective absorption of nutrients and protection against ingested injurious components such as viruses, bacteria and toxins. The gut is exposed to a huge antigenic load – it has been estimated that over a lifetime we ingest about 2500kg of food antigens<sup>1</sup> without this eliciting a systemic immune response. The gut, particularly the colon, is a repository for bacteria with about 10<sup>13</sup> organisms, the highest cell density recorded for any

ecosystem.<sup>2</sup> Some 60% of faecal residue passed is made up of bacteria.

Several mechanisms help to maintain the integrity and function of the intestine:

- Mechanical, such as peristalsis, epithelial barrier function including the important role of tight junctions, mucus layer, and
- Non mechanical processes, such as the commensal gut flora, innate and adaptive immune responses and neuroregulatory processes.

These complex interactions that modulate the gut's response to external and internal stimuli occur mostly autonomically at the level of the gut. There is both afferent and efferent communication with the brain where conscious perception occurs – the 'brain-gut axis'. Most of these interactions remain largely unperceived – the two exceptions being ingestion and excretion. It is perhaps surprising that disturbances of these interactions are not more common – when they do occur we tend to call them functional gastrointestinal problems with one sub-group being IBS.

## What is IBS?

IBS occurs worldwide with similar incidences in developed and developing countries, but is more common in women. It affects about 15–20% of the population, but not all affected people will seek medical assistance.

Abnormalities of GI sensation, motility, autonomic function, bacterial flora and the immune system have been described as possible

mechanisms leading to the symptoms of IBS.<sup>3</sup> A more holistic view of IBS is to regard it as a complex of symptoms without a single cause, that reflects an integrated response to a variety of complex interactions combining biological and psychosocial factors. Or, put more succinctly, IBS is a disorder of the brain-gut interactions with both physical and psychosocial components.<sup>4,5</sup>

IBS is one of many different functional somatic syndromes (FSS), which are characterised by patterns of persistent bodily complaints, for which adequate examination does not reveal sufficiently structural or other specified pathology.<sup>6</sup> Medically unexplained symptoms are common in general practice; studies have shown that in up to 50% of patients presenting with physical symptoms the cause remains unknown. In our own unit we recently reviewed our OP activities over the last 15 years and found that some 30–40% of patients attending OP present with medically unexplained gastrointestinal symptoms.<sup>7</sup>

IBS is one of the three most common FSS, the others being 'Chronic fatigue syndrome' and 'Fibromyalgia', with overlaps between FSS being quite common; be it between different functional gastrointestinal problems such as IBS/functional dyspepsia and/or functional abdominal pain or between gastrointestinal and non-gastrointestinal FSS. IBS is often associated with chronic fatigue and/or fibromyalgia symptoms.

Although FSS are often associated with anxiety, depression and somati-

sation they cannot be viewed simply as a psychological reaction or over reaction to bodily complaints nor as masked or somatised depressive or anxiety problems.

### How to diagnose IBS

IBS is a positive, clinically based diagnosis and not a diagnosis made as a last resort after other pathologies have been excluded, a view that is still widely promulgated. A thorough history and physical examination allow establishing the diagnosis of IBS on first consultation: patients are usually young females presenting with a combination of abdominal pain/discomfort and variable bowel motions. Detailed history often elicits a long history of various abdominal complaints. Fatigue and lack of appetite but weight gain are frequently present. The Rome III criteria (Table 1) are very helpful in establishing a positive diagnosis of IBS<sup>8</sup> while presence of 'alarm symptoms' generally precludes a diagnosis of IBS and warrants appropriate investigations.

IBS can be subdivided according to stool frequency:

- *IBS with constipation*
  - hard stools >25%
  - loose stools <25% of the time
- *IBS with diarrhoea*
  - hard stools <25%
  - loose stools >25% of the time
- *Mixed IBS*
  - the most common form of IBS.

This division is particularly useful for the longer term management of the patient.

Table 1.

<b>Rome III Criteria</b>	<b>Alarm symptoms</b>
<p><i>Recurrent abdominal pain/discomfort at least three days per month in the last three months associated with two or more of the following:</i></p> <ul style="list-style-type: none"> <li>• Improvement with defecation</li> <li>• Onset associated with a change in bowel frequency</li> <li>• Onset associated with a change in form</li> </ul>	<ul style="list-style-type: none"> <li>• Age over 50 on first presentation</li> <li>• Short history</li> <li>• Weight loss</li> <li>• Nocturnal symptoms</li> <li>• Rectal bleeding</li> <li>• Recent antibiotic use</li> </ul>

The physical examination is generally unremarkable – ill-defined abdominal tenderness is common. Point tenderness along the costal margin exaggerated by tensing the abdominal wall muscles suggests the 'painful rib syndrome'.<sup>9</sup> Features suggesting a non-visceral abdominal pain are summarised in Table 2.<sup>10</sup>

History and physical examination should be complemented by some baseline blood tests that should include a test for coeliac disease. Sigmoidoscopy is particularly useful in patients with diarrhoea to exclude inflammatory bowel disease. More extensive and repetitive investigations create uncertainty that is detrimental to the successful management of patients with IBS; it has the effect of reinforcing concerns about a potential physical cause of the problem.

### Management

Treatment of patients with IBS starts at the first consultation – taking the time to take a thorough history, to

perform the physical examination and to explain the nature of IBS and the basis for this diagnosis.

Physicians seem to have considerable discomfort in managing these patients, who are often referred to as 'difficult' or 'heartsink' patients.<sup>11</sup> The frequent attendance of these patients results in high health care costs<sup>12</sup> often attributed to the patients' demanding further investigations. And yet, the somatising effect of medically unexplained symptoms is as much a result of the clinician seeking an elusive cause as the patient wanting an explanation.<sup>13</sup> We often feel ill equipped to deal with such patients and continue to look for a medical cause for the patient's symptoms resulting in a spiral of unnecessary interventions. The Hippocratic oath, 'first do no harm' seems to be replaced by a new mantra: 'first of all: don't miss a medical diagnosis'.<sup>14</sup>

Maybe we need to be less concerned about cause and be more concerned with care.<sup>15</sup> The interaction between patient and doctor is therefore a crucial part in the management of patients with medically unexplained symptoms. A constructive approach is to establish the diagnosis of IBS on initial consultation with confidence, but at the same time acknowledging concerns and anxieties about more serious pathology. These need to be discussed and explained as to why they are not the cause of the patient's symptoms. Some baseline tests are useful in alleviating

Table 2. Features of Non-Visceral abdominal pain

<b>Onset</b>	<p><i>Often insidious</i></p> <p><i>History of injury or repetitive trauma or uncommon activity not uncommon</i></p>
<b>Pain</b>	<p><i>Sharp component with dull persisting ache, which may radiate, on the affected side</i></p>
<b>Position</b>	<p><i>Aggravated or relieved by certain positions, changes in posture, lifting, coughing or sneezing</i></p>
<b>Modulating factors</b>	<p><i>Relief by local heat application or pressure</i></p> <p><i>Generally no association with food intake or bowel action</i></p>

these anxieties; predicting that these tests will likely be normal further helps to reassure the patient.

Patients often experience our explanations that examination and baseline investigations are normal as rejecting the reality of their symptoms; we need to convey to the patients the reality and legitimacy of their symptoms.<sup>16</sup>

Lifestyle advice is another important part of the management of IBS patients. Dietary concerns need to be reviewed and dietary excesses need to be addressed; a trial of a lactose free diet for one to two weeks can help to exclude lactase deficiency as a cause for the patient's symptoms. Many patients will already have trialed various dietary modifications; food intolerance has not been shown to be associated with IBS. Food intolerance is often diagnosed on the basis of skin tests that are notoriously unreliable in this context. I don't believe in initiating a gluten free diet until a diagnosis of coeliac disease has been established even though many patients with or without IBS opt to restrict gluten intake. Regular mealtimes with more frequent and small meals can be useful; not infrequently patients with IBS eat very irregularly and at times large meals.

Although drug therapy is often the preferred way of treating or being treated for IBS, its results are often disappointing. Drug therapy should be a last rather than an initial approach to the management of IBS patients. Systematic reviews on the efficacy and safety of pharmacological agents for IBS have recently been published<sup>17,18</sup> – a brief summary follows:

- Antispasmodics/smooth muscle relaxants may be of limited benefit in patients in whom pain is the predominant symptom. Their efficacy is not well documented in controlled trials.
- Loperamide may have a place in IBS with diarrhoea particularly where there is an added problem of faecal incontinence. Both these drugs can be used 'on demand' rather than on a regular basis.
- Bulking agents and laxatives may be a useful adjunct in IBS with constipation. Regular intake with sufficient fluid intake is crucial in achieving a good result.
- Tricyclic antidepressants have been shown in a meta-analysis to offer advantage over placebo.<sup>19</sup> These work best in patients who have abdominal pain and diarrhoea or mixed IBS. The dose of the drug is well below the antidepressant dose – I usually use amitriptyline starting at 10mg at night and building up to a maximum of 50mg. Patients need to persevere with the medication for at least four weeks; they need to be warned about early side effects such as fatigue and dry mouth that tend to settle over time. If effective they should be continued for a minimum of six months.
- Selective serotonin reuptake inhibitors (SSRI) have fewer side effects than tricyclic antidepressants, which makes them more attractive to patients who have IBS. Few trials, often including small numbers only, have addressed their efficacy. Generally a beneficial effect in favour of SSRIs is found: SSRIs seem to promote a sense of well-being, possibly some improvement in pain (SSRIs do have a mild analgesic effect) and may be more useful in patients with constipation. These beneficial effects seem to be independent of improvement in any concurrent depression. SSRIs may also reduce the reporting of multiple bodily symptoms or somatisation.<sup>4</sup>
- The serotonin type 3 (5HT<sub>3</sub>) antagonist, alosetron, has been shown to improve diarrhoea in female IBS patients with the latest study showing improvement for all doses of alosetron at 12 weeks.<sup>20</sup> However, concerns about ischemic colitis and severe constipation have prompted withdrawal of the drug in most countries.

## Key Points

- IBS is a syndrome of medically unexplained symptoms resulting from a variety of biological and psychosocial factors
- The diagnosis can be made on the basis of a typical history – it is not a diagnosis of exclusion
- Baseline investigations are useful in addressing patient's concerns about serious medical condition but extended and repeat investigations have no place
- Thorough explanations need to address patients' concerns and anxieties
- Lifestyle and dietary advice should be used before drug therapy
- Fibre may have a role in IBS with constipation, Loperamide in IBS with diarrhoea
- SSRIs improve global symptoms without altering bowel symptoms
- Tricyclic antidepressants may benefit patients with pain and diarrhoea
- Antispasmodics are of limited value
- Serotonin antagonists (diarrhoea) and agonists (constipation) are effective but have potentially serious adverse effects
- Psycho- and hypnotherapy if available are useful and beneficial
- The serotonin type 4 (5HT<sub>4</sub>) agonist tegaserod may improve constipation in woman with IBS. Concerns about an increase in myocardial ischemia and strokes have led to a restriction in its use. Psychological treatments such as cognitive behaviour therapy and hypnotherapy have been evaluated in

randomised controlled trials<sup>21</sup> and show improved coping although they are not necessarily associated with improving bowel symptoms. These treatments are not easily accessible in New Zealand.

### Competing interests

None declared.

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