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Irritable bowel syndrome

The role of complementary medicines in treatment

Background

Irritable bowel syndrome (IBS) is a common gut problem that interferes with many people's enjoyment of life.

Objective

This article discusses the use of complementary medicines in the treatment of IBS.

Discussion

The underlying pathophysiology of IBS is not yet fully understood. People's experience of IBS can fluctuate over time and various bowel symptoms may predominate. Many complementary medicines are used to treat IBS symptoms. Currently there is good evidence to recommend the use of probiotics, peppermint oil capsules and psyllium. Other therapies such as Chinese and Ayurvedic herbs and psychological techniques look promising, but further high quality trials are required before these approaches can be recommended.

■ **Irritable bowel syndrome (IBS) is a common gut problem that interferes with many people's enjoyment of life. It is a chronic fluctuating condition with features that include recurrent abdominal pain with altered bowel habit and no detectable structural abnormality. Conditions such as coeliac disease and fructose intolerance, for example, must be excluded. There is marked variation in how people experience what is termed 'IBS': IBS with constipation dominating is known as 'IBS-C'; if diarrhoea is most prominent it is termed 'IBS-D'; and alternating bowel habit is known as 'IBS-A'.¹**

Estimates of community prevalence of IBS are 10–15%.² Australian estimates indicate that IBS is managed at around 285 000 general practice consultations annually.³ Irritable bowel syndrome causes much morbidity and costs in terms of lost time at work and drain on health resources.⁴

Given the chronic nature of IBS, it is most appropriately managed in general practice where a positive patient-doctor relationship, ongoing support, and a holistic approach can be helpful to set realistic treatment goals.

However, despite much research, the pathophysiology of IBS remains poorly understood. The following mechanisms may all play their part^{1,5-7}:

- disturbances in the brain-gut axis
- abnormalities of central pain processing
- genetic factors
- psychosocial factors (eg. symptom over reporting or hypervigilance)
- postinflammatory changes
- motor dysfunction (eg. smooth muscle spasm and altered bowel motility)
- sensory dysfunction (eg. visceral hypersensitivity), and
- gut mucosal immunology and gut microbes.

For example, overlapping but different physiological mechanisms have been found to cause abdominal distension and abdominal



bloating – both commonly experienced in people with IBS.⁸

Given the lack of knowledge about the cause(s) of IBS and its range of manifestations, it is not surprising that no single treatment is effective for all sufferers. Recommended options include:

- dietary modification
- bulking agents
- antispasmodic medicines, and
- complementary medicines (CM) and psychological approaches.^{1,9}

Tricyclic antidepressants and serotonin reuptake inhibitors have also been used. The evidence for some of the more common CM treatments is of variable quality, but emerging and encouraging.

Dietary and CM treatments for IBS

Probiotics

Over 100 years ago, Metchnikoff, after studying yoghurt eating Bulgarian peasants, popularised the use of yoghurt medicinally for gastrointestinal symptoms and to promote longevity.^{10,11}

Lactobacillus and bifidobacteria species are the important bacteria in treating IBS. Interest in probiotics has been due to the detection of low grade gut mucosal inflammation and systemic immune activation in some sufferers, suggesting that alteration in indigenous gut flora may be playing a role in its aetiology.^{1,7} Recent animal studies have been promising, suggesting a role for some probiotics in reducing inflammation, visceral hypersensitivity, and the stress response.⁷

However, a key problem in researching probiotics and interpreting results is that characteristics of strains are not generalisable across species. Human studies have provided mixed responses, for example, certain strains are effective in bloating and flatulence, whereas others assist in relieving pain or constipation.⁷ A recent meta-analysis of heterogeneous strains and dosages of probiotics found significant improvement in both global IBS symptoms and abdominal pain.¹² In most studies, the introduced probiotic species have not persisted in the gut longer than a few weeks after administration ceases.

Therefore, while promising, treatment with probiotics needs to be with specific proven strains targeted at the individual's dominant symptoms and also needs to be prolonged. On the positive side, these bacteria have an excellent safety profile.^{1,7} In reality for general practitioners, this means advising patients to try different brands of probiotics from their local pharmacist, naturopath or health food shop, and monitor the response. Local research has established that the probiotic in the Vaalia brand of yoghurt is most likely to successfully colonise the bowel.¹³

Peppermint oil

Peppermint oil (*Mentha piperita*) has been used for hundreds of years as a digestive aid and carminative, meaning that it relaxes the tone of gastrointestinal tract sphincters and aids the passage of flatus. Over 100 constituents of peppermint oil have been identified, with menthol being predominant.¹⁴

A recent meta-analysis supports the use of peppermint oil in the treatment of IBS.⁵ The authors located only four randomised controlled trials (RCTs) that compared peppermint oil to placebo in nearly 400 people. Only one reported its results by subtypes of IBS, which limits the generalisability of the review. However, the results were excellent for symptom relief in general. Only 26% of people taking peppermint oil remained symptomatic compared with 65% on placebo. The number needed to treat to prevent one person having persistent symptoms was 2.5, which is excellent. Clinically results can be variable.

Peppermint oil is commonly recommended by Australian GPs.³ Most trials of peppermint oil use enteric coated preparations to enable higher doses to be tolerated and to reduce the risk of reflux due to relaxation of the oesophageal sphincter. People using peppermint oil should be advised not to chew the capsules. Doses used in trials varied from 3–6 enteric coated capsules with 0.2–0.4 mL of oil.¹⁵

Side effects of oral use are not common, but include perianal burning and nausea. The safety of peppermint oil in pregnancy has not been established.¹⁵ The use of peppermint oil is contraindicated in people with biliary duct occlusion, gall bladder inflammation and severe liver damage. In theory, peppermint oil may increase the bioavailability of felodipine, simvastatin and cyclosporine, but evidence is lacking. It may also increase the bioavailability of drugs metabolised by CYP3A4 liver enzyme, although the clinical significance of this interaction is not clear.¹⁴

Fibre

Fibre is often suggested as a treatment option for IBS sufferers where constipation predominates, often in conjunction with dietetic advice. BEACH data estimates that psyllium is recommended at 4.6 of every 100 IBS consultations.³ The proposed mechanisms of action include decreased intracolonic pressures and increased oro-anal transit, although the evidence for the latter is conflicting.^{1,12} A recent review found that soluble, but not insoluble, fibre might be effective in IBS, but the evidence is hard to interpret.¹⁵ Soluble fibre, usually given as psyllium, is found in whole grains, fruits and vegetables. It is fermented in the gut and it is these metabolites that may act to decrease transit time and pressure. Insoluble fibre, from wheat and corn bran, acts by retaining water, thereby increasing stool bulk and decreasing transit time.

Two recent systematic reviews reported varying results from nine and 12 randomised control trials of fibre for IBS.^{5,15} Meta-analyses that included both soluble and insoluble fibre interventions generally found no improvement. Soluble fibre, in particular from Plantago isphagula (blond psyllium), showed good effect on constipation and global IBS symptoms, but not on abdominal pain. However, the RCTs were criticised for enrolling patients not representative of those seen in general practice, not reporting results by predominant IBS symptom, and not excluding patients with coeliac disease, which may explain why wheat derived insoluble fibre interventions often worsened abdominal symptoms.



Elimination diets

Elimination of certain foods from the diet is often recommended by naturopaths for IBS, but is there any evidence? An Australian systematic review of seven studies found response rates to elimination diets ranged from 15–71%.¹⁶ Patients with IBS-D were more likely to exhibit adverse food reactions. The foods most commonly identified as exacerbating symptoms of IBS from the studies include milk, wheat, eggs and amines. However, the authors concluded that more carefully designed controlled clinical trials are warranted to establish the role of elimination diets and predict those most likely to benefit. Expert dietetic advice would clearly be advisable in clinical practice.

Eastern medicines for IBS

Herbal medicine practitioners usually use a combination of herbs with individualised formulae tailored to each patient.¹⁴ A Cochrane review examined 75 RCTs of 71 different herbal interventions, of which only three trials were of high quality.¹⁷ In trials using placebo comparators, a traditional Chinese herbal formula, individualised Chinese herbal medicine, herbs STW-5 and STW5-11, Tibetan herbal medicine Padma Lax, traditional Chinese formula tong xie yao fong, and an Ayurvedic preparation all showed improvement in global IBS symptoms. A more recent review concurred that four high quality trials found that one Chinese herbal medicine (standard formula), Padma Lax and STW-5 could potentially relieve abdominal pain, constipation, diarrhoea and alternating constipation and diarrhoea.¹⁸ The authors of both reviews caution that small trials of poor quality tend to exaggerate effects and that further research is needed in this area. However, few adverse events were reported in these studies and none were serious.^{17,18}

Other therapies

Cochrane reviews of other therapies in IBS have been undertaken for acupuncture,¹⁹ hypnotherapy²⁰ and psychological treatments, including relaxation therapy, stress management, cognitive behavioural therapy and interpersonal psychotherapy.²¹ All three reviews identified similar problems – the few trials that had been undertaken were mainly of poor quality, the most promising trials were generally less rigorous, and due to heterogeneity of the actual interventions tested and the comparators, it was difficult to pool results and produce firm conclusions.

Conclusion

Irritable bowel syndrome is a difficult condition to manage for both its sufferers and their treating GP. However, there is some evidence for use of probiotics, peppermint oil, and dietary changes such as increasing fibre intake, in the form of psyllium, all of which have excellent safety profiles. Treatment needs to be tailored to the individual's predominant manifestation of IBS.

Other promising treatments, such as various eastern medicines and psychological treatments, will continue to be investigated.

Conflict of interest: none declared.

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