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ARTICLE

Treatment of irritable bowel syndrome

SUMMARY

Irritable bowel syndrome is a chronic functional gastrointestinal disorder that presents with abdominal pain, related to defecation, accompanied by a change in stool frequency or form. Despite its impact on a patient's quality of life, it has no effect on mortality.

A positive clinical diagnosis should be made if the characteristic symptoms are present and red flags are absent. Red flags should prompt specialist referral.

Consultations should be provided in an empathetic manner, addressing the concerns of the patient while providing reassurance.

Manipulating diet, with the assistance of a dietitian, is an appropriate initial treatment for irritable bowel syndrome. A low-FODMAP diet is an effective therapy.

Low-dose antidepressants improve symptoms but can be accompanied by adverse effects. Antispasmodic drugs have a limited role.

Psychological therapies and gut-focused hypnotherapy are effective if patients are willing to try them.

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Introduction

Irritable bowel syndrome is a functional gastrointestinal disorder meaning there are no biochemical or structural abnormalities on investigation.[1] However, it is treatable and it is among the most common complaints presenting to GPs[2] affecting about 9% of Australians.[3]

The syndrome is characterised by recurrent abdominal pain, related to defecation, and is associated with a change in stool frequency or form.[4] It is subtyped by the predominant stool form as follows:

- diarrhoea predominant (IBS-D)
- constipation predominant (IBS-C)
- mixed subtype (IBS-M).

The diagnostic criteria, referred to as the Rome criteria, are based on an expert consensus governed by the Rome Foundation (see Box 1).[5]

Given the broad definition of irritable bowel syndrome, it is likely to represent multiple different conditions, each developing from unique pathophysiological mechanisms.[6] These include intolerance to particular foods, hypersensitivity to pain and psychosomatic manifestations of anxiety or stress. Other associated mechanisms include low-grade inflammation, altered microbiota, genetic factors and altered 5-HT (5-hydroxytryptamine) metabolism.

Irritable bowel syndrome can result in significant disability, reduced quality of life and impaired workforce productivity.[7] Fortunately, it is not directly associated with mortality[8] or an increased risk of gastrointestinal malignancies.[9]

Diagnosis

Irritable bowel syndrome is not a diagnosis of exclusion. A positive diagnosis should be based on the presence of characteristic symptoms[4] (Box 1), and the absence of red flags. Patients with red flags should be referred for further investigation, including imaging or specialist review (Box 2).[6] A significant proportion of patients with irritable bowel syndrome may have symptoms that overlap with another functional gut disorder.

Initial testing should be minimally invasive. Full blood counts, urea and electrolytes, C-reactive protein and liver function tests would constitute reasonable initial investigations.

Box 1 The Rome IV diagnostic criteria* for irritable bowel syndrome

Recurrent abdominal pain, on average, at least one day per week in the last three months associated with two or more of the following criteria:

1. Related to defecation
2. Associated with a change in the frequency of stool
3. Associated with a change in the form (appearance) of stool

* Criteria fulfilled for the last three months with symptom onset at least six months before diagnosis.

Source: reference 5

Box 2 **Red flags that require further testing or specialist assessment**

Age over 50 years, no previous colon cancer screening and presence of symptoms
Recent change in bowel habit in people over 50 years of age
Evidence of overt gastrointestinal bleeding (i.e. melaena or haematochezia)
Nocturnal pain or passage of stools
Unintentional weight loss
Family history of colorectal cancer or inflammatory bowel disease
Palpable abdominal mass or lymphadenopathy
Evidence of iron deficiency anaemia on blood testing
Positive test for faecal occult blood

Adapted from reference 6

Coeliac serology should be considered as there is a significantly increased risk of coeliac disease among patients with symptoms that fit the Rome criteria for irritable bowel syndrome.[10] Genetic testing for coeliac disease is not recommended – it is unlikely to discriminate between irritable bowel syndrome and coeliac disease because more than 30% of the population share the HLA-DQ2/8 gene.[11]

The symptoms of irritable bowel syndrome share similarities with inflammatory bowel disease and gastrointestinal malignancies. The concern of organic gastrointestinal pathology, even in the absence of red flags, may prompt many clinicians to recommend an endoscopic assessment. There is no role for a faecal occult blood test to exclude gastrointestinal malignancy in patients with symptoms of irritable bowel syndrome.[12] A normal faecal calprotectin test result, which measures intestinal inflammation, reduces the need for endoscopy to rule out inflammatory bowel disease.[13]

Understandably, many clinicians are not confident to make a diagnosis of irritable bowel syndrome without specialist assessment. However, clinicians should be reassured that patients presenting with symptoms of irritable bowel syndrome in the absence of red flags are extremely unlikely to be affected by serious organic illness.[14]

Treatment

The treatment for irritable bowel syndrome should involve addressing the patient's concerns, and prescribing treatments that tackle the mechanisms underpinning their symptoms.

The consultation

An appropriately conducted consultation can be therapeutic for a patient with irritable bowel syndrome. However, only a minority of patients consult their GP, and an even smaller proportion seek specialist care.[15]

Clinicians should therefore recognise that patients who present with irritable bowel syndrome require a holistic consultation. A positive diagnosis and reassuring explanation of irritable bowel syndrome should be delivered in an empathetic manner, while allowing time for the patient to discuss their concerns. A randomised controlled trial showed patients who were given sham acupuncture were less likely to have adequate relief of irritable bowel syndrome symptoms compared with patients who received sham acupuncture combined with a 'warm empathetic' consultation (44% vs 62%, $p<0.001$).[2]

Diet

Many patients with irritable bowel syndrome report aggravated gastrointestinal symptoms related to specific foods.[16] This perception lends itself well to a therapeutic manipulation of diet. However, clinicians should be mindful of overly restrictive eating patterns,[17] and dietary manipulation should be supervised by a dietitian.

General dietary advice

The UK's National Institute of Health and Care Excellence (NICE) recommends eating smaller frequent meals, avoiding trigger foods, and avoiding excess alcohol and caffeine. This diet has been found to be as effective as a low-FODMAP diet (low in fermentable oligosaccharides, disaccharides, monosaccharides and polyols) for the diarrhoea-predominant irritable bowel syndrome.[16]

Fibre

Insoluble fibres are more likely to worsen abdominal pain and bloating in patients with irritable bowel syndrome.[6] However, soluble fibres such as psyllium improve symptoms, especially in patients with the constipation subtype.[18]

Low-FODMAP diet

Foods containing FODMAPs (which are short-chained carbohydrates) are poorly absorbed by the small intestine. This leads to an osmotic effect in the colon and excess gas production causing pain and diarrhoea. A low-FODMAP diet has been proven to significantly reduce symptoms related to irritable bowel syndrome compared to a regular Australian diet.[19] Patients with irritable bowel syndrome, especially those with the diarrhoea subtype, should consider a low-FODMAP diet as their initial therapy. Individual symptoms of pain and bloating seem to respond to this diet.

A dietitian-supervised low-FODMAP diet involves an exclusion phase where patients reduce FODMAP-containing foods over six weeks. If the patient reports a significant reduction in symptoms, FODMAP-containing foods can be carefully re-introduced over

subsequent weeks. Remaining on an exclusively low-FODMAP diet in the long term has been shown to transform the intestinal microbiota to a potentially negative profile,[19] and therefore is not recommended.

General lifestyle advice

Symptoms of irritable bowel syndrome can be mitigated by regular exercise[20] which should be recommended in conjunction with dietary advice. The importance of sleep should also be discussed as improved quality of sleep has been found to control symptoms.[21]

Medicines

Drugs exclusively developed for irritable bowel syndrome are not available in Australia, unlike the USA and Europe. Most of the drugs used here were designed for other indications.

Mebeverine and hyoscine

Antispasmodic drugs have only modest effects in irritable bowel syndrome and have a limited role.[22] Although hyoscine has greater evidence for symptom relief,[23] it is associated with significant adverse effects including constipation and dry mouth.

Peppermint oil

Peppermint oil acts as an antispasmodic through smooth muscle calcium channel antagonism.[24] A systematic review found that it significantly reduces symptoms compared with placebo.[25]

Antidepressants

Antidepressants can significantly reduce symptoms of irritable bowel syndrome.[26] They are purported to work by manipulating visceral hypersensitivity and abnormal central pain sensitisation.[24] Tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRIs) have both demonstrated benefit.[26] Tricyclics are ostensibly used for the diarrhoea subtype due to their known adverse effect of constipation. Similarly, SSRIs may be better used for the constipation subtype due to their adverse effect of diarrhoea. Although SSRIs have been shown to be of benefit,[26] the exact dose and their use are not universally accepted for the treatment of irritable bowel syndrome.

It is important to advise patients that antidepressants are used for their neuropathic-pain-modulating effect, rather than for an antidepressant effect. Patients should take a low dose of the antidepressant every day for 4–6 weeks before assessing efficacy.

Rifaximin

Rifaximin has a limited role in irritable bowel syndrome and it is not subsidised by the Pharmaceutical Benefits Scheme for this indication. It is a non-absorbed antibiotic that modestly reduces symptoms of non-constipating irritable bowel syndrome compared to placebo.[27] Despite theoretical concerns of developing persistent bacteria that are resistant to rifaximin, studies have not demonstrated this to be the case.

Probiotics

Probiotics possibly have a role in irritable bowel syndrome but the dose and strain needed for benefit is not clear. Of the products available in Australia, the strains and doses are too varied to provide a meaningful recommendation based on evidence.[28]

Psychological therapies

There are many psychological therapies that have been shown to improve or resolve symptoms in irritable bowel syndrome. These include cognitive behavioural therapy, multi-component psychological therapy and dynamic psychotherapy.[26]

Some patients recognise that their symptoms arise or are aggravated by stress and anxiety. For these patients, offering psychological therapies as a direct method to treat irritable bowel syndrome is a reasonable solution. A carefully timed and formulated referral to a psychologist with expertise in functional gastrointestinal disorders improves the chance of a successful outcome.[29]

Many patients do not associate their symptoms with psychological disturbance, even if there appears to be an obvious clinical correlation. Offering psychological therapy for these people is unlikely to be therapeutic.

Gut-focused hypnotherapy

Hypnotherapy has been proven to reduce symptoms of irritable bowel syndrome with sustained benefit for greater than five years.[30] A recent Australian trial showed that gut-directed hypnotherapy is as effective as a low-FODMAP diet.[31]

Patients should be advised that hypnosis is not as theatrical as it is portrayed in popular culture. It usually incorporates cognitive behavioural therapy and relaxation exercises administered by a psychologically trained hypnotherapist, typically over 10 weekly sessions.

Physical and behavioural therapies

Pelvic floor dysfunction is underdiagnosed among patients with irritable bowel syndrome, especially those with the constipation subtype.[32] These patients either fail to relax the pelvic floor or paradoxically contract the pelvic floor muscles causing obstructed defaecation.[33] Through a technique referred to as biofeedback, physiotherapists with expertise can retrain patients to use their pelvic floor muscles appropriately. Patients are given visual or tactile

awareness of involuntary bowel function in order to learn voluntary control.[34] Behavioural aspects that contribute to symptoms such as incorrect toileting posture, prolonged time spent in the toilet and the use of inappropriate cues to trigger the need to defecate are also addressed with exercises and biofeedback.[35] Selecting patients for this therapy is best determined by specialists with expertise in the diagnosis of irritable bowel syndrome.

Severe disease

Some patients can present with a severe form of irritable bowel syndrome, resulting in multiple admissions to hospital and repeated investigations.[15] Despite what may appear to be debilitating symptoms, clinicians should avoid prescribing opioids for pain as it can cause narcotic bowel syndrome. These patients are best managed by a single gastroenterologist working with a multidisciplinary team including a psychologist.[6]

Conclusion

Irritable bowel syndrome is a common chronic gastrointestinal condition. A positive clinical diagnosis is made using the Rome criteria, in the absence of red flags. Patients with red flags should be referred for further testing or specialist assessment.

Once the diagnosis is made, consultations should provide reassurance in an empathetic manner with time allocated to address the patient's concerns. There are multiple therapeutic modalities that benefit patients with irritable bowel syndrome, including medicines, diet and psychologically based therapies. <

Conflict of interest: none declared

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