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Irritable Bowel Syndrome (IBS)

Dr Nadia Asim[1*], Dr Asim Qureshi[1]

[1]MBBS, MRCGP, UK

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***Corresponding author:** Dr Nadia Asim
MBBS, MRCGP, UK

Review Article

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INTRODUCTION

Irritable bowel syndrome (IBS) affects 10 -20 % of the adult population, it's a remitting and relapsing gastrointestinal disorder with recurrent, intermittent symptoms. Irritable Bowel Syndrome (IBS) doesn't impact mortality but associated morbidity can be significant and can affect quality of life.

Aim of Study

Diagnosing and managing irritable bowel syndrome (IBS) is a common presentation in family medicine. The aim of study is to simplify and summarize the assessment, diagnosis, and the management of this commonly faced scenario without missing out the red flags for serious illnesses. Physician should focus on holistic approach to help patients with irritable bowel syndrome (IBS).

Aetiology

Irritable bowel syndrome (IBS) should be suspected in the absence of alarming symptoms or signs. There is no structural lesion or single explanation found to explain the condition. It seems to involve abnormal smooth muscle activity with or without visceral hypersensitivity and abnormal central processing of painful stimuli. The bidirectional communication between the gut and the brain is modulated by the autonomic nervous system. A reduction in parasympathetic activity and an increase in sympathetic activity is seen in many irritable bowel syndrome (IBS) patients.

Irritable bowel syndrome (IBS) is associated with increased levels of psychiatric distress and poor coping strategies. Factor such as adverse events in early life, gastrointestinal infections (bacterial, viral or parasitic) and genetic predisposition are considered a predisposing factors in irritable bowel syndrome (IBS).

There is good evidence that bacterial, viral or parasitic infections can trigger irritable bowel syndrome (IBS). Studies have shown antibiotics can either improve or worsen the condition. Alterations in the gut microbiome have been demonstrated.

Prevalence:

Irritable bowel syndrome (IBS) is more common in women than in men, with a ratio of 1.67:1 [1], and peak prevalence is between the ages of 20 and 30. [2]

A recent Rome Foundation global survey (n = 73,076) reported a worldwide prevalence of irritable bowel syndrome (IBS) of 4.1% when Rome IV diagnostic criteria were used compared to 10.1% when the less restrictive Rome III criteria were used (Sperber, 2021; Vasant, 2021).

Systematic review of global prevalence showed significant geographical differences (between 1% and 45%) [3] IBS causes a significant burden to health care systems worldwide. As highlighted in a recent review article, direct medical costs attributed to IBS in the United States, excluding prescription and over-the-counter medications, are estimated to be as high as $1.5–$10 billion per year. [4]

DIAGNOSIS

Irritable bowel syndrome (IBS) is diagnosed when abdominal pain or discomfort is present for at least 6 months and is either relieved by defecation or associated with altered bowel frequency or stool form.

And at least two of the following features are present:

- Altered passage of stool (straining, urgency, incomplete evacuation)
- Abdominal bloating (women more than men), with distension or hardness.
- Symptoms aggravated by eating
- Passage of mucus rectally

Patient may experience a 'morning rush', urgent need to defecate several times on getting up, during and after breakfast. Chronic remitting and relapsing symptoms with extraintestinal manifestation also support the diagnosis, symptoms including lethargy, nausea, heart burn, early satiety, headaches, backpain, bladder symptoms, and even dyspareunia. Psychological problems (anxiety and depression) are also more common, although some psychological morbidity appears to be associated with healthcare seeking rather than with IBS per se.

Subclasses of irritable bowel syndrome (IBS):

1. Approximately one third of patients have constipation dominant IBS- C
2. One third of patients have diarrhoea as predominant symptom IBS - D
3. IBS- M, mixed both hard and soft stools >25% of the time.
4. IBS unclassified (IBS-U) where symptoms meet the criteria for IBS but do not fall into one of the three subgroups above according to Bristol stool type.

Colonic transit is abnormal in only 10-20% of patients with constipation dominant IBS and in mixed IBS, and 25-45% of patients with IBS with diarrhoea.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis is vast and diagnostic pathways are centred around ruling out other conditions that may mimic IBS symptoms before making a diagnosis.

Differentials include Inflammatory bowel disease (IBD), Coeliac disease, diverticular disease, gall stones, GERD, colonic cancer, gastroenteritis or gut neuroendocrine tumours (NETs) – e.g. carcinoid.

Gynaecological problems also need to consider – e.g., ovarian tumour, endometriosis and pelvis inflammatory disease.

Anxiety, depression, somatisation and panic disorders also needs to be considered in the process of formulating the diagnosis.

Assessment

Examination - checking weight, calculating the body mass index (BMI), and assess for unintended or unexplained weight loss.

National Institute for Health and Care Excellence (NICE), recommends abdominal examination for sign of tenderness or masses and rectal examination after patient's consent to rule out perianal or rectal pathology.

Investigations – to rule out alternative diagnosis, National Institute for Health and Care Excellence (NICE), recommends:

- Complete blood count - to assess for anaemia and platelet count.
- Inflammatory markers such as erythrocyte sedimentation rate (ESR) and C- reactive protein (CRP) – may be raised if there is active inflammation or infection
- Coeliac serology to exclude coeliac disease, especially in diarrhoea predominant IBS or mixed symptoms
- Faecal calprotectin – to exclude IBD (inflammatory bowel disease) in particular if the person has diarrhoea and is aged 45 years or younger

MANAGEMENT

Irritable bowel syndrome (IBS) can have a significant impact on quality of life, and can affect work productivity, concentration, social interactions, relationships and sexual intercourse.

Holistic approach is key factor in patient care, management should focus on explaining diagnosis to patient, offering choice including dietary and life style modification, medication for specific symptoms like constipation, diarrhoea, bloating. Patient and clinician understanding of the gut–brain axis and biopsychosocial factors which can impact symptoms is key to managing IBS. The gut–brain axis is impacted by diet, stress and post-infective changes, as well as that person's cognitive, behavioural and emotional responses to their symptoms (Gut 2021;70:1214).

No medical therapy alters the natural history of irritable bowel syndrome (IBS) and most randomized control trials (RCTs) for medications have lasted 12w or less.

Diet and lifestyle

Management of irritable bowel syndrome (IBS) should be individualized considering patient's symptoms, and psychosocial situation. Patient should have clear explanation of the condition and diet and lifestyle advice.

Explained diagnosis in the context of gut-brain axis and setting realistic explanation related to the nature of irritable bowel syndrome (IBS). Symptoms can be triggered by stress, intercurrent illness, medications and eating.

Patient needs to be reassured that irritable bowel syndrome (IBS) is not associated with increase mortality or increase in risk of cancer.

- Diet and nutrition: regular meals, taking time to eat and avoid long gaps or missing meals altogether.
- Hydration, at least 8 cups of fluids per day especially water or non-caffeinated drinks
- Restrict coffee and tea to 3 cups/d and reduce intake of alcohol and fizzy drinks.
- A gluten-free diet is not recommended (Gut 2021;70:1214).
- It may be helpful to limit intake of high-fibre foods and limit fresh fruit to 3 portions/d. Discourage insoluble fibre, e.g. bran, corn, wheat. If increased fibre is needed, it should be soluble, e.g. oats, nuts and seeds, ispaghula.
- In diarrhoea predominant irritable bowel syndrome (IBS), avoid the artificial sweetener sorbitol.
- Oats and up to 1 tablespoon/d of linseeds for problematic bloating and wind.
- Probiotics, as per manufacturer's recommended dose for at least 4w (the BSG suggests a 12w trial and to stop if no better (Gut 2021;70:1214).
- Encourage time for relaxation.
- Assess physical activity and provide brief advice about increasing physical activity if inactive. All patients with irritable bowel syndrome (IBS) should be advised to take regular exercise, supported by American & British Society of Gastroenterology (BSG)
- Discourage use of aloe vera.
- National Institute for Health and Care Excellence (NICE), does not recommend acupuncture or reflexology for the treatment of IBS.

FODMAP DIET

FODMAP stands for fermentable oligosaccharides, disaccharides, monosaccharides and polyols

These are poorly absorbed short chain carbohydrates, they pass through small intestine and get fermented in large intestine, it is considered to worsen symptoms in irritable bowel syndrome (IBS) with visceral hypersensitivity. Low FODMAP diet is exclusion diet, that limits the amount of FODMAP consumed.

Dietary management should be offered to people who have persisting symptoms despite general lifestyle and dietary advice.

- This advice should include single food avoidance or exclusion diets.
- Dietary advice should be given by a healthcare professional with expertise in dietary management, so dietitian should be involved in IBS management. Drug and Therapeutics Bulletin 2015;53:93
- Starving the gut microbiota by using a low-FODMAP diet for 4–8 weeks can kill off a significant proportion of the microbiome.
- The next step is to slowly reintroduce the foods restricted, and encourage a diet that will promote a healthy mix of gut bugs.

Examples of foods high in FODMAPS

- Oligosaccharides: wheat, onions, legumes (chickpeas, lentils, red kidney beans, baked beans).
- Disaccharides: lactose in milk.
- Monosaccharides: fructose in honey, apples and high-fructose corn syrup.
- Polyols: sorbitol and mannitol present as artificial sweeteners in gums and confectionary.

Psychological interventions

Psychological therapies may work in two ways:

- Centrally on mood.
- Peripherally on pain perception, visceral hypersensitivity and gastrointestinal motility

Cognitive behavioural therapy (CBT), hypnotherapy, and/or psychotherapy for people with irritable bowel syndrome (IBS) that do not respond to other treatments.

Meta analysis showed CBT, gut-directed hypnotherapy, relaxation therapy, multicomponent psychological therapy and dynamic psychotherapy were all more effective than a control intervention. (Am J Gastroenterol 2019; 114:21) CBT may be helpful tool for both patients with refractory IBS and their healthcare professional (BJGP 2018; DOI: https://doi.org/10.3399/bjgp18X698321)

Medication for IBS

Depending on the predominant symptoms, antispasmodic, laxative and antimotility drugs are considered first line. National Institute for Health and Care Excellence (NICE), recommends review at 1m: if ineffective switch to alternative, if effective, review at 6m to determine if still treatment required. Mediation dose should be titrated by the patient to achieve a soft, well-formed stool.

Antispasmodics including Mebeverine, alverine, peppermint oil capsules, hyoscine and dicycloverine all are considered cost effective for long term use.

For constipation dominant irritable bowel syndrome (IBS), lactulose shouldn't be used. Bulk forming laxatives are preferred e.g. ispaghula husk, if not tolerated or ana additional laxative is required than macrogol e.g. Movicol can be tried. Stimulant laxatives can be used short term, e.g. bisacodyl. For IBS -D, loperamide should be used first line.

Tricyclic antidepressants and SSRIs

Trial of a low dose tricyclic antidepressant (TAC) second line such as amitriptyline (off label indication) can be offered to patients;

- Carefully explain the rationale for use of TCAs and their potential adverse effects.
- Start at a low dose, review the person after 4 weeks, and increase the dose slowly if needed, according to symptom response and tolerability. Continue for at least 6 months if effective and review every 6 months thereafter.

Tricyclic antidepressants slow gastrointestinal transit and have neuromodulatory properties. For these reasons, they may help those with diarrhoea or abdominal pain, or both (Lancet2020;396:1675).

SSRI (Selective serotonin reuptake inhibitors can be considered as a third -line medication if tricyclics are ineffective. Fluoxetine, paroxetine and citalopram have been studied.

Other treatments

National Institute for Health and Care Excellence (NICE), recommends Linaclotide (a guanylate cyclase-C agonist) only if optimal or maximal tolerated doses of previous laxatives from different classes have not helped and person has been constipated for 12 months

Herbal remedies

National Institute for Health and Care Excellence (NICE), said current evidence suggests a positive effect on IBS symptoms, but evidence was limited and no recommendation could be made. NICE has outlined the use of herbal remedies for IBS as an area for future research.

Exclude other conditions

Think about ovarian and colorectal cancer any patient aged mor than 50 years of age. National Institute for Health and Care Excellence (NICE), states (NICE 2023, DG56) do a FIT and refer on urgent suspected cancer pathway if ≥10mcg Hb/g adults with ANY of:

- Abdominal mass (*will need referral regardless of FIT result, but this will help get the person to the best pathway as quickly as possible*).
- Change in bowel habit.
- Iron deficiency anaemia (if aged ≥60y: ANY anaemia, even in absence of iron deficiency).
- ≥40y with unexplained weight loss and abdominal pain.
- <50y with rectal bleeding and either unexplained abdominal pain or weight loss.
- ≥50y with ANY of unexplained rectal bleeding or abdominal pain or weight loss.
- The BSG guidance on IBS says to do a calprotectin if <45y and diarrhoea (Gut 2021;70:1214)
  Request CA125:
- if a woman, presents with change in bowel habit, irrespective of age especially more than 50 years and if symptoms are persistent and frequent.
- New IBS symptoms in the past 12 month, in a women age 50 and over.
  If CA125 is ≥35IU/ml, arrange urgent USS abdomen/pelvis, and refer on 2-week wait if abnormal.

CONCLUSION

Irritable bowel syndrome (IBS) has major economic effects on health care systems and adversely affect quality of life. This review is intended to sum up evidence-based guidelines to help physicians to understand the importance of shared care management, timely diagnosis, offering both pharmacological and non-pharmacological management. Management should be individualized and be guided by patient's predominant symptoms aimed to improve not only symptoms but to enhance quality of life.

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