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Clinical Intelligence: Making a Positive Diagnosis of Irritable Bowel Syndrome

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Introduction

The National Institute for Health and Care Excellence (NICE) guidelines for the management of irritable bowel syndrome (IBS) state that invasive tests, such as colonoscopy, are not required to make a diagnosis of IBS (1). However, in a recent survey conducted among general practitioners (GPs), approximately 70% believed that IBS was a diagnosis of exclusion (2), although whether this meant that they felt invasive investigations were required to reach a diagnosis of IBS was not examined. Nevertheless, this finding is supported by other studies and is important, as clinicians who consider IBS to be a diagnosis of exclusion are more likely to request invasive tests, and to refer patients on to secondary care, resulting in increased health care costs (3).

One potential reason for the reluctance of GPs to adopt a positive approach to diagnosing IBS may be due to concerns of a missed organic pathology in individuals with a change in bowel habit, particularly colorectal cancer. However, in the absence of alarm features, this diagnosis is uncommon, reported as only 1% in patients with symptoms compatible with a diagnosis of IBS (4).

Another possible explanation is that the symptom-based criteria used to diagnose IBS are unwieldy, and are therefore not used routinely in primary care (2). In addition, such symptom-based criteria perform only modestly in differentiating IBS from organic disease, with a meta-analysis reporting sensitivities of between 42% and 90%, and specificities of between 66% and 89% (5). For the GP consulting with a patient with suspected IBS in primary care, where the main concern is a missed diagnosis of an organic gastrointestinal (GI) disease, a diagnostic test with a high specificity is desirable in order to minimise the risk of a false positive result.

Use of Biomarkers to Diagnose IBS

The lack of a reliable diagnostic test for IBS has led to the search for biomarkers, which are measurable biological characteristics such as physiological responses, proteins, metabolites, or genes, in order to facilitate the diagnosis. At the time of writing, there is only one commercially available biomarker for IBS (IBSDetex©, Quest Diagnostics, USA), which is not available in the UK. This is a serum antibody test that detects antibodies to Campylobacter jejuni toxin, and vinculin, a cell adhesion protein with which these antibodies are known to cross-react. However, the test has only been validated in one case-control study, using an IBS-enriched cohort of patients, with maximum sensitivity of 44% and maximum specificity of 90%, in differentiating IBS from inflammatory bowel disease (IBD) (6). It is unlikely to perform as well in unselected patients with lower GI symptoms.

Combining Symptoms with Biomarkers and/or Markers of Psychological Affect to Diagnose IBS

The modest performance of this biomarker is perhaps not surprising. The aetiology of IBS is multifactorial, and biomarkers alone are unlikely to take into account its composite nature, which may include physiological, immunological, neurological, or psychological factors. The use of a diagnostic test that combines symptoms, biomarkers, and/or markers of psychological affect may therefore be more intuitive, compared with either biomarkers or symptoms alone (5,7). A recently undertaken study has confirmed this hypothesis (8). When symptom-based diagnostic criteria were modified to include additional items from the clinical history, including levels of anxiety, depression, and somatoform-type behaviour, as well as the addition of basic biomarkers, such as normal blood test results (haemoglobin and C-reactive protein (CRP)), clinically useful enhancements in accuracy, with specificities $\geq$95%,

were obtained by combining symptom-based criteria with a high level of somatisation, with normal bloods and high hospital anxiety and depression scale scores, or with normal bloods and a high level of somatoform-type behaviour (8).

Diagnosing IBS in Primary Care

The approach of combining relevant symptoms with blood tests and/or markers of psychological affect described above is similar to that advocated by NICE (see Box 1). In the absence of red flag features (see https://www.nice.org.uk/guidance/ng12/chapter/1-Recommendations-organised-by-site-of-cancer#lower-gastrointestinal-tract-cancers), NICE states that a diagnosis of IBS should be considered if a patient has abdominal pain or discomfort that is relieved by defaecation, or is associated with a change in stool form or frequency. The symptoms should have been present for at least 6 months and associated with at least two of the following: altered stool passage (straining, urgency, incomplete evacuation); abdominal bloating; passage of mucus per rectum, or symptoms which are made worse by eating. NICE also state that symptoms referable to other body systems, and therefore compatible with somatoform-type behaviour, may be used to support a diagnosis of IBS. Once a probable diagnosis of IBS is established this should be confirmed by a limited panel of blood tests, consisting of full blood count (FBC), erythrocyte sedimentation rate (ESR), CRP, and coeliac serology. A faecal calprotectin should also be requested if IBD is suspected. A list of tests considered unnecessary to confirm a diagnosis of IBS by NICE is shown in Box 2.

Reinforcing a Positive Diagnosis of IBS

GPs should aim to establish with patients a shared understanding of a diagnosis of IBS. Patients present with a range of ideas and concerns about the causes of their symptoms, which may include colorectal cancer or IBD. These require acknowledgement, as well as elicitation if not initially volunteered (9). Explaining the purpose of tests, and preparing patients for the likely negative findings, may facilitate acceptance of the diagnosis (10). Patients then need reassurance based upon an explanation of positive diagnostic features and key negative findings, supplemented by high quality information available via websites (11,12).

Although GPs predominantly believe that IBS has a strong psychological aetiology (13), patients have more disparate views around both pathological and emotional causes (14). Any resulting discordance can potentially undermine the therapeutic relationships. It is therefore important to focus on positive coping measures, continuity in subsequent care, and invite patients to consult if they develop any new, or potential alarm, symptoms.

Conclusions

In the absence of alarm features, serious organic pathology in patients with symptoms compatible with IBS is uncommon. Symptom-based diagnostic criteria, the gold standard for diagnosing IBS, perform modestly and available biomarkers perform no better. Combining symptoms with a limited panel of blood tests and markers of psychological affect appear superior. GPs should therefore consider this approach, which is advocated by NICE, to facilitate a positive diagnosis of IBS.

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Box 1. NICE guidance for the diagnosis of IBS.

IBS should be considered if the following symptoms are reported:

Abdominal pain or discomfort relieved by defaecation or associated with a change in stool form and/or frequency*

Associated with at least 2 of the following:

- Altered stool passage
- Abdominal bloating
- Symptoms made worse by eating
- Passage of mucus

* Symptoms present ≥ 6 months

The following symptoms are supportive of IBS:

- Lethargy
- Nausea
- Backache
- Bladder symptoms

The following tests should be undertaken to confirm a diagnosis of IBS:

- Full blood count
- ESR
- CRP
- Coeliac serology

Box 2. Tests that NICE consider as unnecessary for diagnosing IBS.

- Colonoscopy or barium enema
- Rigid or flexible sigmoidoscopy
- Ultrasound
- Hydrogen breath test for small intestinal bacterial overgrowth and lactose intolerance
- Thyroid function test
- Faecal ova and parasite test
- Faecal occult blood test