

Irritable bowel syndrome (IBS) used to be a sort of 'waste-basket diagnosis' which meant that there did not appear to be any evidence of physical abnormality as regards test results.

It therefore gained a reputation for being a thinly veiled diagnosis of psychosomatic problems. IBS has thus acquired a pejorative meaning.

Nowadays, however, IBS is recognised as a legitimate physical disorder, albeit one that may be affected by psychological stress or distress (as so many physical complaints are).

It is currently defined as a gastrointestinal (GI) disorder of function (GIDF) which can be identified and quantified clinically.

IBS affects roughly 20% of adults in the Western world. It is second only to the common cold as a reason for absenteeism.

The majority (80%) of IBS sufferers do not seek medical attention. However, the 20% that do comprise about a quarter of the patients seen by gastroenterologists (and over 10% of GP patients).

IBS affects women more than men (a ratio of about 2:1). Generally, the onset of symptoms is in early adulthood and they tend to persist throughout adult life.

A UCLA study of about 3000 respondents amply illustrated the negative impact on patients'

lives:

- 40% reported intolerable pain
- 65% planned their daily schedule around the necessity of availability of toilet facilities
- 53% stated that ill health limited their activity

In contrast, 33% of doctors interviewed about IBS felt that it was psychosomatic.

Although on average, patients needed to see 3 different doctors and waited 3 years before getting a diagnosis, 58% of doctors in the study stated that IBS is easy to diagnose.

CAUSES:

Theories include

- infection (e.g. following gastroenteritis)
- inflammation
- lack of dietary fibre
- food sensitivity
- antibiotics (leading to overgrowth of candida),
- post-surgery
- heredity

There is no conclusive evidence that any of these is truly causal, or to what extent they are contributory. IBS is probably multi-factorial in origin.

A study at the Mayo Clinic in US, (published earlier this year) found that IBS was significantly associated with 3 factors:

- 1) analgesics (painkillers) used for reasons other than IBS: especially acetaminophen(paracetamol)
- 2) food allergies/sensitivities
- 3) somatic symptom ratings (i.e. symptoms in other parts of the body)

### SYMPTOMS:

- Motility: constipation(C-IBS) or diarrhoea(D-IBS) or alternating
- Visceral sensory perception: abdominal pain
- Bloating
- Secretion of mucus in the stools

Currently, there is a set of criteria to indicate IBS: the Rome II Criteria:

- At least 12 weeks (not necessarily consecutive) in the last 12 months of abdominal pain or discomfort which has the following features:

1. Relieved with defaecation and/or
2. Onset associated with changes in frequency of stool and/or
3. Onset associated with change in form (appearance) of stool

Symptoms:

- Abnormal stool frequency (>3/day and <3/week)
- Abnormal stool form (lumpy/hard or loose/watery)
- Abnormal stool passage (straining, urgency, or feeling of incomplete evacuation)
- Passage of mucus
- Bloating or feeling of abdominal distension.

Note: IBS does NOT cause bleeding.

### PHYSIOLOGICAL FEATURES:

To a large extent, the different subgroups of IBS arise through differences in the colonic motility.

In diarrhoea-predominant IBS (D-IBS) there is an exaggerated motility. When a meal is eaten and arrives in the stomach, it sets off a reflex called the gastrocolic reflex. (this is a normal event). This triggers colonic activity, thereby emptying the lower bowel.

Smooth muscles in the wall of the colon may either impede or facilitate the movement of the contents within the gut. One type of contractions, known as haustral contractions, impedes stool movement.

During the time that the stool is in the colon, water is absorbed from the stool.

If the length of time in the colon is prolonged, the stool may become drier and harder; obversely, if the transit time in the colon is shortened by an increase high-amplitude propagating

contractions (HAPCs), as seen in D-IBS, then the stool may be loose. HAPCs are fewer and segmental impeding contractions more frequent in C-IBS(constipation type).

C-IBS:

- Postprandial rectal relaxation
- Blunted gastrocolic response
- Lower rectal discomfort threshold

D-IBS:

- Postprandial increase in rectal tone
- Exaggerated gastrocolic response
- Hypersensitivity to rectal distension

5-HT

Serotonin (5-HT) is a neurotransmitter that is implicated in IBS. There are several neurotransmitters involved in GI function: 5-HT, norepinephrine (NE), dopamine (DA) acetylcholine (Ach).

There are also neuropeptides: substance P etc., and neuromodulators: (neurotrophins); all these substances occur both in the gut and the brain.

The enteric nervous system (ENS) is the system innervating the gut and related organs. It acts

semi-autonomously, to regulate smooth muscles, endocrine cells (producing gut hormones/enzymes) and blood vessels.

The sympathetic and parasympathetic nervous systems also have pivotal roles in GI functions.

Serotonin influences motility, visceral perception and secretion in the gut. In fact, 95% of the body's 5-HT is in the gut and only about 5% in the brain. There are several subtypes of 5-HT receptors that have been implicated in IBS.

The symptoms of IBS may be exacerbated by neurochemical imbalances in the autonomic system. The dynamics of 5-HT, NE, DA and Ach may be altered in IBS. Excessive levels of one neurotransmitter will throw the system out of equilibrium and result in changes in the levels of other transmitters.

The situation is in constant flux and there may be alternating dominance of 5-HT and NE. which can cause the clinical problem of alternating D-IBS and C-IBS.

Serotonin is also implicated in visceral perception. IBS patients may have visceral hypersensitivity in response to rectal balloon distension.

However, studies have shown that this hypersensitivity is restricted purely to GI sensation and does not affect patients in other parts of their bodies.