New Zealand Society of Gastroenterology

NZSG Patient Brochure Series

What is Indigestion?

Indigestion is a general term with no strict medical meaning. It generally refers to any discomfort in the upper abdomen or lower chest that relates in some way to meals. The medical term for upper abdominal discomfort is “dyspepsia”. It is also used as an alternative term for heartburn which is the symptom of acid reflux.

What causes indigestion?

Acid reflux is a common cause. Sometimes there is just heartburn (burning discomfort behind the breastbone). Sometimes there is upper abdominal discomfort as well as heartburn. Sometimes acid reflux does not lead to the typical symptom of heartburn but only causes upper abdominal discomfort.

In the past, peptic ulcers (duodenal and gastric ulcers) were a common cause of indigestion. This diagnosis has become much less common. This is because of decreasing numbers of people are infected with bacteria called *Helicobacter*. There is now effective antibiotic treatment for *Helicobacter*.

Symptoms of indigestion are usually frequent, often daily. This is contrast to symptoms from gallstones which cause less frequent “discrete” episodes of pain.

If there is prominent bloating or abnormal fullness after meals or nausea this is more likely to be due to a motility disorder or associated with irritable bowel syndrome.

Symptoms of acid reflux – heartburn and regurgitation

Heartburn results from acid in the oesophagus. The stomach is designed to handle acid but the oesophagus has a different lining and is more sensitive to the effects of acid. This sensitivity to acid varies significantly from person to person.

The basic abnormality is weakness of the valve between the oesophagus and the stomach. This “valve” is designed to allow food into the stomach but to prevent acid and food refluxing back into the oesophagus. This “valve” function is adversely affected by a hiatus hernia. A hiatus hernia is when the top part of the stomach is sitting up in the chest instead of being below the diaphragm. This causes the valve to be working at a disadvantage.

Regurgitation is the easy flow of stomach contents (acid and food) into the back of the throat. This is different from vomiting. There may be a sour or bitter taste in the mouth. Acid reflux is often blamed for many throat problems but the response to acid lowering treatment is often disappointing. If there are no symptoms of heartburn or acid regurgitation then it is unlikely that acid-reducing treatment will have any effect. Any symptoms of difficulty swallowing, pain on swallowing or weight loss needs further assessment by gastroscopy without delay.

Investigation

The main investigation for indigestion is a gastroscopy. This is a simple outpatient investigation that provides accurate inflammation on the oesophagus, stomach and duodenum. A barium meal is very rarely indicated and is much less reliable. The gastroscopy will often be normal. A peptic ulcer is now uncommon. Evidence of acid reflux problems may be seen but this is less likely if treatment was started before the gastroscopy. Inflammation of the stomach or small breaks in the lining of the stomach due to anti-inflammatory drugs or aspirin may be seen and are sometimes (but not always) related to the symptoms. Fortunately, gastric cancer is a very rare explanation for indigestion.

Sometimes an abdominal ultrasound is required to exclude gallstones.

What is the problem if the gastroscopy is normal?

If the gastroscopy is normal then this provides helpful reassurance. The diagnosis may still be acid reflux. Only 1/2 of the time is there positive evidence of reflux on gastroscopy. The diagnosis may be a

"sensitive stomach" or a motility disorder. This can be termed non-ulcer dyspepsia or functional dyspepsia. These "medical" terms cannot hide the fact that not much is understood about some "indigestion" symptoms.

Treatment of heartburn / acid reflux

Life-style changes are important. This approach tends to be ignored now that we have very effective medications but this is a mistake. The presence of heartburn is a sign that the body is not "enjoying" the current eating pattern or other aggravating factors.

Reflux may be aggravated by fatty foods; spicy foods, alcohol, smoking, chocolate, peppermint, caffeine. Stress does not cause reflux but can make the symptoms more distressing. Acid reflux becomes more common after the age of 40 years. This may be because of gradually weakening of the "valve". Weight gain is common in the middle years (particularly around the waist which may increase the pressure on the stomach). Even modest weight gain can lead to new symptoms in susceptible people. Once heartburn becomes a troublesome symptom for a given individual it may wax and wane in intensity but spontaneous remission is uncommon.

Smoking should be stopped. Unfortunately if there is weight gain after stopping smoking this may aggravate reflux. Weight reduction is crucial. Elevation of head of the bed is not helpful (and not well tolerated) for most people.

Medication

Antacids are relatively weak compared to other medications. They can briefly neutralise gastric acid. The effect may only last for 30 -60 minutes. Gaviscon and Mylanta are simple and convenient treatments and can be tried first for infrequent mild symptoms.

H2-antagonists such as ranitidine (Zantac) and famotidine (Pepcidine) are effective for mild symptoms. They are often the best choice for "as required" treatment. There is rapid onset of relief (within 30mins). The dose available in "over-the-counter" preparations is relatively small therefore less effective than a prescription for the same medication.

Proton pump inhibitors (PPI) such as omeprazole (Losec), lansoprazole (Solox) and pantoprazole (Somac) are very effective in control of gastric acid secretion over the 24-hour period. They have become the mainstay of treatment of reflux.

A single morning dose is usually sufficient but 1/3 of people will need a second dose before the evening meal. These drugs are most effective if given 30mins prior to meals. This means that the optimal dosing is 30mins before breakfast and then 30mins before dinner. The commonest error is to take the evening dose just before retiring to bed. It is more effective to split the dose (e.g Losec 20mg twice daily) than to take 40mg in the morning. A small proportion of people (<20%) are able to get a good effect from lower doses. e.g Losec 10mg daily or 20mg every 2nd day. These tablets should be taken long-term if significant oesophagitis (ulceration) was observed at endoscopy.

What is the medication doesn't work?

Treatment of heartburn is often straightforward and successful but not everyone with heartburn is better with a PPI. Sometimes the symptoms are due to a "sensitive oesophagus". There is acid reflux but it is relatively mild. However, because of the sensitivity of the oesophagus, it doesn't take much acid exposure to cause troublesome symptoms.

The symptoms may not be due to acid reflux. A sensation of a "burning mouth" or a lump in the throat are not usually caused by acid reflux. Some people have chest pain that is not due to heart problems or due to acid reflux. The reason for this type of pain may be unknown. Some chest pain can be part of a generalised musculoskeletal sensitivity called "fibromyalgia" - characterised by multiple trigger points.

Treatment of indigestion not due to acid reflux

Treatment of indigestion when there is no heartburn and the gastroscopy is normal is more difficult. A trial of PPI is worthwhile to see if acid reflux is part of the problem. A trial of tablets to improve the emptying of the stomach is worthwhile particularly if there are symptoms of bloating or fullness after meals. The best medication is Motilium (domperidone) taken ½ hour before meals. The bacterial infection *Helicobacter pylori*, if present, should be treated but this may not make a major difference. Dietary changes can help. Important changes may be stopping coffee and reducing alcohol intake intake which sensitize the lining of the oesophagus and stomach. There may be a major contribution from stress. The reassurance from a normal examination of the stomach (gastroscopy) may be enough to decrease the impact of the symptoms on daily activities.

What about the long-term view of treatment?

If you have daily symptoms of heartburn then regular daily medication is required for adequate relief of symptoms. If the symptoms are less frequent then many people can have intermittent treatment. Another option is to accept the less powerful treatment (e.g. ranitidine) and concentrate on lifestyle modifications. The long-term goals should be to lose weight, eat a better diet with lower fat content, stop smoking and moderate alcohol consumption. This is also be good for overall health and will reduce the risk of heart disease. If some success is achieved with above life-style changes then reduction in dose or stopping medication may be possible. Otherwise it is usual to have the same symptoms again within a few days of stopping medication. Sometimes long-term treatment in younger people is accepted when more intermittent treatment might work. Some people say they find it difficult to come off the PPI. There can be an apparent increase in symptoms during the first week after stopping regular medication. This may be due to an increase in sensitivity of the oesophagus while on effective treatment or perhaps a temporary rebound in acid secretion. There has been a dramatic increase in the use of PPI in recent years. Some of this relates to appropriate use but many people are better to concentrate on life-style changes rather than to rely on medication.

Is long-term treatment with PPIs safe?

The main safety concerns with proton pump inhibitors have been the theoretical concerns about long-term reduction in acid secretion or put another way - why do we need acid? Several studies of long-term treatment (now over 25 years) have now been reported which allay any fears. Digestion is not affected by the suppression of normal acid secretion. Surprisingly acid is not essential for the normal digestion of food. There may be a marginally lower level of vitamin B12 but this is not relevant. There have been recent reports of increased risk of osteoporosis - thinning of the bones. This remains unproven but is a warning to reduce inappropriate use.