General Practitioner's Section

Gastroparesis Insight and Treatment

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Gastroparesis (gastric = stomach; paresis = paralysis) literally means stomach paralysis. It is a condition in which the stomach muscle becomes slow and weakened. Following a meal, it takes too long for the stomach to empty its contents into the small intestine.

Symptoms

Vague symptoms often pose problem in identifying gastroparesis. Most symptoms occur due to incomplete empting of stomach. There is always some residual food present which causes excessive fullness after meals, frequent burping, abdominal distension, acid-reflux, and nausea. Vomiting of undigested food often occurs 1 to 3 hours after meals. These individuals often feel full before the meal is finished and complain of early satiety. Eventually, fear of eating may lead to unplanned weight loss. Persistent vomiting can cause low blood potassium, dehydration, and malnutrition. Diabetics may have complications because of poor blood sugar control.

Aetiology

Commonly idiopathic, but gastroparesis is a common complication of Type 1 insulin-dependent diabetes occurring in about 20% of patients - especially in those who have developed other signs of nerve damage (diabetic neuropathy) such as numbness or burning of the feet. People with Type 2 diabetes get it also, but less often. Diabetic gastroparesis can be a vicious cycle since diabetes causes nerve damage which leads to gastroparesis. And gastroparesis can worsen diabetic control since delayed stomach emptying makes digestion unpredictable which results in uneven blood sugar levels. Gastroparesis may also be a complication of stomach surgery for ulcer disease or weight loss. Some systemic disorders such as kidney failure, lupus, Parkinson's disease, sclerodema, and thyroid disorders can also delay gastric emptying. Up to 30% of individuals with gastroparesis are idiopathic, meaning that there is no identifiable cause. It is felt that some of these may be due to an acute viral infection. Lastly, some medications such as anticholinergics (antispasmodics) can worsen the situation.

Diagnosis of gastroparesis

Not everybody who is bloated has gastroparesis. Most of the time, bloating and excessive fullness is caused by Irritable Bowel Syndrome (IBS). But, when symptoms are severe, the possibility of gastroparesis must be considered, especially in diabetics. History of prior stomach surgery, certain systemic disorders, and offending medications must be ruled out.

If gastroparesis is suspected, blood

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tests are usually done to assess diabetic control and nutritional status. In addition, imaging studies:

- An Upper GI Series X-ray with barium may be done to obtain some information about the size of the stomach and determine if any retained food is present when fasting. In most cases, a Gastroscopy "scope" test is performed to rule out serious conditions such as an obsruction due to ulcer disease or stomach cancer.
- The most important test is a radioisotope liquid and solid gastric-emptying scan done in the hospital nuclear medicine department.

Treatment for gastroparesis - No cure for gastroparesis, but in most cases, symptoms can be improved with treatment. Regardless of the cause, treatment remains similar.

Diet - best to eat six small meals a day, instead of three large ones. Liquid dietary supplements are often recommended since liquid meals pass through the stomach more easily and quickly. Avoid high fat foods that naturally slow gastric emptying and foods high in fiber like citrus and broccoli because the indigestible part will remain in the stomach too long.

Medications

- Metoclopramide is an oral drug of choice effective in the acute gastroparetic conditions, but often loses its effectiveness over time. Common side effects include drowsiness, loss of menstrual periods, impotence, and muscle spasms. With prolonged use, some patients develop a Parkinson's-like tremor. Benadryl can limit some of the side effects but worsens the drowsiness.
- Erythromycin has become the oral and intravenous gastric prokinetic of choice for those patients who fail responding to conventional agents. This antibiotic also acts to stimulate the muscles of the stomach to contract.
- Domperidone improves gastric emptying and may have less side-effects.
- New drugs like sildenafil. Human trials are underway.
- When nausea is a predominant symptom, a separate anti-nausea drug is often added such as prochlorperazine or scopolamine patches. But, again, side effects are common. In severe cases ondansetron may be used, but is very expensive.

Surgery - seldom done for gastroparesis, but in severe cases, a feeding jejeunostomy tube can be placed surgically. Special liquid nutrition through this feeding tube bypasses the mouth, oesophagus, and stomach and is delivered directly to the small intestine for absorption.

Gastric Pacemaker- On April 8, 2000, the FDA approved a stomach pacemaker called Enterra (Medtronic Corporation) for "compassionate use". This electrical device is implanted in the abdomen and functions much the same way a pacemaker works in the heart. Enterra is indicated for the treatment of chronic

nausea and vomiting associated with gastroparesis when conventional drug therapies are not effective.

Summary

Gastroparesis is a common condition that may affect anyone, but most often is complication of insulin-dependent diabetes, especially who have other signs of nerve damage like numbness of the feet. Up to a third of cases have no identifiable cause. Gastroparesis causes nausea, vomiting, early fullness, bloating, weight loss and contributes to poor blood glucose control. In severe cases, it can affect nutrition. Treatments include changes in diet, better control of blood sugar, oral medications, and, in severe cases jejunostomy.

Managing back pain and osteoarthritis without paracetamol

Physical treatments are the way forward

Paracetamol is usually our first choice drug for a wide range of painful musculoskeletal disorders, including osteoarthritis and spinal pain. Yet new evidence in a linked paper by Machado and colleagues casts doubt on the efficacy and safety of paracetamol and questions its place as our first choice analgesic.

While adverse events were reported at a similar level to that seen with placebo, patients taking paracetamol were nearly four times more likely to have abnormal results on liver function tests.

The recently revised guidelines from the National Institute for Health and Care Excellence on the management of osteoarthritis caused controversy when draft guidance advised that paracetamol should not be routinely offered to patients as it might not be effective and was potentially associated with important side effects when used at high doses for a prolonged period of time.

There are safe and effective alternatives available, although evidence suggests that they are used inconsistently. Over the past 10 years prescriptions for topical NSAIDs have more than doubled in UK. Topical NSAIDs are available over the counter, are as effective as oral NSAIDs for knee osteoarthritis, and are associated with fewer side effects.

The evidence supporting the use of opioids for osteoarthritis and spinal pain is limited, and while the UK has yet to see the dramatic increase in prescribing observed in the United States, a reduction in the use of paracetamol could result in increased prescribing rates and a new range of associated problems, especially in high risk groups.

NICE recommends that all patients with osteoarthritis should receive written information with advice about maintaining or increasing physical activity and optimising weight (if appropriate); exercise, manual therapy, acupuncture, and psychological support are also recommended for those with back pain.

Physiotherapists are key professionals to offer expert advice and support in this regard, but timely access to physiotherapy services is becoming increasingly limited in the NHS, constraining the usefulness of this evidence based and safe treatment.

Christian Mallen, Elaine Hay, BMJ, 2015, Vol 350, 8