GUT FEELING GASTROLAB NEWS FOR GPs

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THIS ISSUE Dietary FODMAP Restriction in IBS | Case Study

DIETARY FODMAP RESTRICTION IN IBS

Irritable bowel syndrome (IBS) is a condition affecting up to 21% of the general population[1]. Previously a diagnosis of exclusion, diagnosis now relies on the presence of chronic gastrointestinal symptoms with absence of alarm features suggestive of organic disease (e.g. rectal bleeding or anaemia, weight loss, severe pain, family history of inflammatory bowel disease, coeliac disease or colorectal malignancy).

Since 2005 a diet low in fermentable short-chain carbohydrates – termed the low FODMAP (fermentable oligo-, di-, mono-saccharides and polyols) diet – has been the focus of many robust clinical trials and is now used internationally as the first line dietary approach for management of functional gastrointestinal symptoms seen in IBS[2]. To date, the concept of FODMAPs inducing symptoms was thought to originate from the large intestine, in which luminal distension would result from both colonic gas and the osmotic load caused by bacterial fermentation of unabsorbed FODMAPs. However a study using magnetic resonance imaging recently showed that osmotic load from FODMAPs also distends the small intestine[3], contributing further to our knowledge of the mechanisms underlying FODMAP-mediated symptoms in IBS patients.

Multiple high quality studies have now shown that restriction of problematic FODMAPs improves overall gastrointestinal symptoms in up to 86% of IBS sufferers[4,5]. Moreover, symptom improvement has been shown to be effective and durable in all IBS subtypes (diarrhoea predominant-, constipation predominant-, and mixed type-IBS). The evidence suggests this strategy is superior to any other pharmaceutical or dietary strategy for IBS management and thus FODMAP malabsorption should always be considered in the diagnostic work up of IBS. Unfortunately many patients self-limit consumption of perceived culprit foods without proper clinical investigation thereby increasing the risk of nutritional inadequacy[5]. Although successful in many patients, the low FODMAP diet can be restrictive and has been shown to reduce total faecal bacterial abundance by an average of 47% after 17 days [6]. Whether this effect persists over time or has any detrimental effects on long-term colonic health is yet to be determined.

In practice it is only a minority of the initially eliminated foods that are ultimately excluded in the final diet, most likely due to variance in individuals' tolerance to each of the FODMAP carbohydrates and the severity of their malabsorption. For this reason, hydrogen/methane breath testing should be performed prior to dietary modification to personalise and fine-tune the dietary approach and to ensure optimum symptom improvement[4]. Breath testing provides the simplest, non-invasive and widely available gastrointestinal physiology test for carbohydrate malabsorption. It is also useful for investigating small bowel bacterial overgrowth which presents a similar symptom profile to IBS. Fructose and lactose are the most commonly tested FODMAPs; fructans (found in wheat, rye, onion and garlic) and galactooligosaccharides (found in legumes and some nuts) are never tested as they are universally malabsorbed.

The low FODMAP diet is a highly specialised area of nutrition counselling and needs to be implemented by specialist dietitians, especially for FODMAPs that are already poorly absorbed (e.g. mannitol, sorbitol and fructans[7]), when the patient has existing co-morbidities (e.g. inflammatory bowel disease[8]) or when the patient has complications (e.g. enteral feeding[9]). Dietary intervention involves consultation with a specialist dietitian who advises on a 4-8 week initial exclusion of high FODMAP foods ("restrictive phase"), followed by symptom evaluation and graded reintroduction of such foods to investigate tolerance ("liberalisation phase").

As the low FODMAP diet can alter the luminal microenvironment, only those FODMAPs that are symptom triggers should be avoided. A supervised low FODMAP diet tailored according to the patient's breath testing results allows the least restrictive diet possible and optimises patient outcomes, while limiting potential deleterious effects of the diet[10].

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Gastrolab GUT DIAGNOSIS

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CASE STUDY

A 25-year-old otherwise well male presented with a 12 month history of peri-umbilical pain and some altered bowel habit. He consulted his general practitioner who performed a stool sample which was positive for *Blastocystis Hominis*. He was prescribed a one week course of metronidazole, however despite a follow-up negative stool culture, his symptoms persisted. He was then referred for a gastroscopy and colonoscopy, both of which were normal. Biopsies taken from the duodenum were normal, thereby ruling out coeliac disease, and random colonic biopsies were also normal.

Due to persistence of the pain, a CT scan of the abdomen was requested. This revealed what was reported to be a small mass in his right kidney. He was subsequently referred to a urologist to follow-up the CT result. The urologist reassured him that there was an anatomical variant of the kidney, rather than a mass, and it was most unlikely that his symptoms were arising from his kidney. The urologist referred the patient to a gastroenterologist for assessment of his gut symptoms.

His history revealed a diet high in fructose, which may be a potential cause of irritable bowel like symptoms. In fact upon further questioning, the patient volunteered that he had noticed a correlation between the severity of his symptoms and his diet, particularly when he consumed large amounts of fruit. He was referred for a fructose hydrogen/methane breath test which was strongly positive. As a result of the test he restricted fructose from his diet, under specialist dietetic supervision, and he has had complete resolution of his original symptoms. He has since seen his dietitian for a review in order to be maintained on the least restrictive diet possible.

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