

Oesophageal Dysmotility

Managing constipation



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Dietetic practice within gastrointestinal (GI) medicine and surgery presents frequent challenges in managing a myriad of GI symptoms, which often present simultaneously. Primary disease and structural abnormalities in one part of the GI tract can often lead to symptoms elsewhere within the gut, which may require complex adaptations and prioritisation of dietetic care plans.

A recent complex patient case demonstrated the impact of oesophageal symptoms on a different area of the GI tract, and highlighted the pivotal role that dietitians can play in improving concurrent GI symptoms.

This article will provide an insight into oesophageal dysmotility disorders, including their classifications, associated symptoms and potential dietary management strategies. A case study will also be included, which demonstrates how dietary management of two complex GI conditions can be improved with an oral dietary fibre supplement.

Oesophageal dysmotility

In normal digestion, the oesophagus transports food from the pharynx to the stomach via peristaltic contractions and relaxation of the upper/lower oesophageal sphincter (UOS/LOS). Excitatory and inhibitory neurons are involved with regulating these sequential movements via the vagus nerve and intrinsic enteric nervous system. Oesophageal dysmotility occurs when this complex transport system is disrupted.¹

Oesophageal motility disorders are classified as either primary or secondary disorders. Primary oesophageal disorders include achalasia, oesophageal junction outflow obstruction and hypercontractile (jackhammer) oesophagus.¹ Secondary oesophageal dysmotility disorders occur as a symptom of more global disease, such as oesophageal carcinoma and scleroderma.²

Oesophageal dysmotility can present as dysphagia, regurgitation and chest pain. As these symptoms are not specific to oesophageal motility disorders, alternative

conditions should be considered in any diagnostic assessments, such as acute coronary syndrome, gastro-oesophageal reflux disease (GORD), mechanical obstruction and mucosal disease. Clinical history taking should include information regarding previous GI surgeries, as well as assessment of medications. Particular attention should be paid to opioids, which can contribute to spastic oesophageal contractions and impaired relaxation of the LOS.¹

In patients with oesophageal dysmotility symptoms, mechanical obstruction and mucosal disease should initially be ruled out by endoscopy.³ High-resolution manometry (HRM) is regarded as a specific, essential method for evaluating oesophageal dysmotility; however, it is only performed at limited tertiary centres.¹ HRM analyses intra-luminal pressure within the oesophagus, which provides a specific oesophageal motility diagnosis according to the Chicago Classification system.⁴ Barium swallow tests are another suggested screening tool for oesophageal motility disorders, which are widely available in clinical practice.¹

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“Alongside the common symptoms of dysphagia and chest pain usually associated with oesophageal motility disorders, achalasia has also been associated with weight loss, recurrent aspiration and nocturnal cough.⁶”

The most widely studied oesophageal motility disorder is achalasia, albeit it is still considered rare. Achalasia occurs as a result of impaired LOS relaxation and lack of peristalsis.¹ Global prevalence has previously been reported as between 1.8 to 12.6 per 100,000 persons per year. However, prevalence has been suggested to increase in more recent years, which may be associated with advancements in diagnostic technology.⁵ HRM classifies achalasia into three different types: type 1 with failed contractions, type 2 with failed contractions accompanied by pan-oesophageal pressurisation, and type 3 with premature contractions.¹

Alongside the common symptoms of dysphagia and chest pain usually associated with oesophageal motility disorders, achalasia has also been associated with weight loss, recurrent aspiration and nocturnal cough.⁶ Dietitians play an essential role in the prevention and treatment of weight loss by implementation of food first advice, oral nutritional supplements (ONS) and supporting with any dietary texture modifications. Appropriate symptom management should also include the support of a speech and language therapist if there are any concerns surrounding aspiration.

Different treatment options are available for achalasia, including botulinum toxin injections, pneumatic dilation (PD), per-oral endoscopic myotomy (POEM) and laparoscopic Heller myotomy. Medications such as calcium channel blockers, nitrates and sildenafil can also be used with the aim of reducing pressure at the oesophagogastric junction (OGJ).¹

The impact of oesophageal motility on bowel transit

Some research has explored the link between oesophageal motility abnormalities and slow transit constipation, and abnormalities are not uncommon in those who suffer with constipation.⁷ Constipation is usually defined as opening bowels three or less times per week.⁸

One study explored whether the motility of other organs, like the oesophagus, were compromised in those with infrequent bowel movements and poor colonic motility. In this study chronic constipation was defined as having less than two bowel movements per week and delayed colonic transit.⁹ They used oesophageal manometry to demonstrate a lack of peristalsis in 5 of 7 female patients with severe chronic constipation.⁹ This amongst other findings, raised the question of the role of the autonomic nervous system affecting multiple

gastrointestinal organs simultaneously (i.e. both the colon and the oesophagus).

Something which has been discussed in our clinical practice has been the food anxiety and fears that may develop due to symptoms of oesophageal dysmotility. This food anxiety, in turn, may affect appetite and food intake. If an individual's intake is reduced due to severity of symptoms, reduced total energy intake may influence lower faecal bulk, and subsequently slow colonic transit time resulting in constipation.¹⁰

Potential barriers to dietary management of bowel transit disorders

The severity of symptoms in oesophageal dysmotility may affect appetite, willingness to eat, and subsequent desire to implement recommended changes suggested by a dietitian or other clinician.

Furthermore, some foods which will help improve constipation, may be the foods that are difficult for someone with oesophageal dysmotility to manage. In particular, an increase in dietary fibre is recommended for those suffering with constipation.¹¹ Many readily available and commonly eaten fibre sources include fruits, vegetables, wholegrains, seeds and nuts. Many people with oesophageal dysmotility may find it easier to manage softer or liquid consistency foods. Therefore, dietary education about the most appropriate forms of fibre to consume is likely to be important.

See case study on the next page.

Learning points

It is not uncommon for individuals to struggle with oesophageal dysmotility and slow transit constipation concurrently, and other gastrointestinal organs are likely to also be affected (e.g. the stomach and delayed gastric emptying). We believe it is important for the whole GI tract to be considered, and all upper and lower GI symptoms to be assessed by the dietitian.

Increasing fibre can be helpful for some people with constipation and infrequent defecation. However, consideration must be given by the dietitian on how the symptoms of oesophageal dysmotility may affect the implementation of fibre increasing advice.

As evidenced by our case study, the use of a low-volume, liquid fibre supplement containing 12 g fibre has shown to be acceptable and effective in improving defecation frequency in an individual with achalasia, who had experienced a new onset of reduced bowel movements.



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Case study

This case study will focus on Jane*, a 48-year-old patient referred to Dietetics for nutrition support due to dysphagia with solid food.

Background

Jane* had no significant past medical history documented.

Prior to her initial dietetic assessment, Jane* had the following investigations completed:

- **Barium swallow:** No oesophageal stricture
- **Endoscopy:** Hiatus hernia, normal gastric mucosa
- **HRM:** The UOS was normotensive and showed incomplete relaxation on wet-swallows. The oesophageal body produced (10/10) failed peristalsis on standard wet swallows
- **Diagnosis:** Achalasia, subtype I, based on Chicago Classification v4.

Initial dietetic assessment

History taking demonstrated that Jane* had been experiencing dysphagia symptoms for the past 2 years. Additional symptoms experienced included regurgitation of solid food, chest pain and acid reflux. Her symptoms were improved with reduction of solid food intake and taking a proton pump inhibitor (PPI). She reported that her bowels were opening daily with no concerns. She experienced significant weight loss of 6% in 3 months when her initial symptoms started, however she began to regain weight when her GP commenced her on ONS.

A diet history demonstrated that Jane* could tolerate very soft foods only. Jane* also followed a vegetarian diet. Diet history demonstrated a fairly balanced diet despite this, and was comprised of the following:

- **Breakfast:** 2 x Weetabix with full fat milk
- **Snack:** Banana
- **Lunch:** Tomato soup and bread
- **Snack:** Dissolvable crisps, such as Hula Hoops/Skips, thick yoghurt
- **Evening meal:** Vegetarian pie with mashed potato, soft carrots and broccoli
- **Fluids:** Milkshake-style ONS containing fibre twice daily, 2–3 x instant coffees, water.

Jane's* dietetic goals were discussed, and Jane declared that she would like to prevent further weight gain. Jane* also expressed that she was very keen to control her achalasia symptoms.

Jane* was advised to cease nutritional supplement drinks and was provided with food first fortification advice to ensure her current diet was as balanced as possible with her dietary limitations. She was advised to consider adding high protein condiments to her meals and snacks, including smooth nut butters and hummus. Jane* was scheduled for dietetic follow-up in 3 months.

2nd Dietetic appointment: Jane* flagged a worsening of symptoms since her initial dietetic appointment, mainly with reference to reflux and regurgitation.

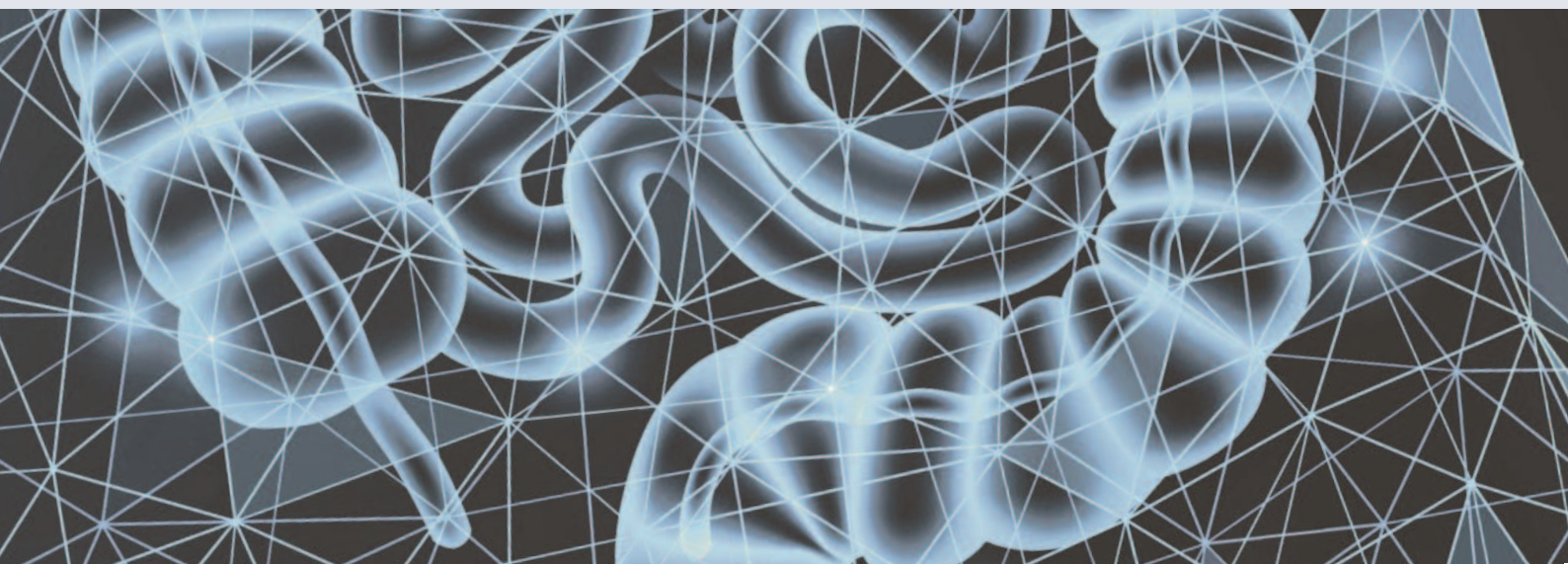
Further questioning demonstrated that Jane* had started to experience a reduction in bowel movements from once daily to once every 2-3 days. This was accompanied by straining and abdominal discomfort. Jane* reported that her overall oral intake had declined in association with the worsening of symptoms.

It was suspected that since ceasing her fibre-containing milkshake style ONS, the reduction in fibre (approximately 9-10 g per day) had led to reduced frequency of bowel motions. Despite adding additional dietary fibre sources (i.e. smooth peanut butter/hummus), Jane* still experienced a marked decline in her GI symptoms.

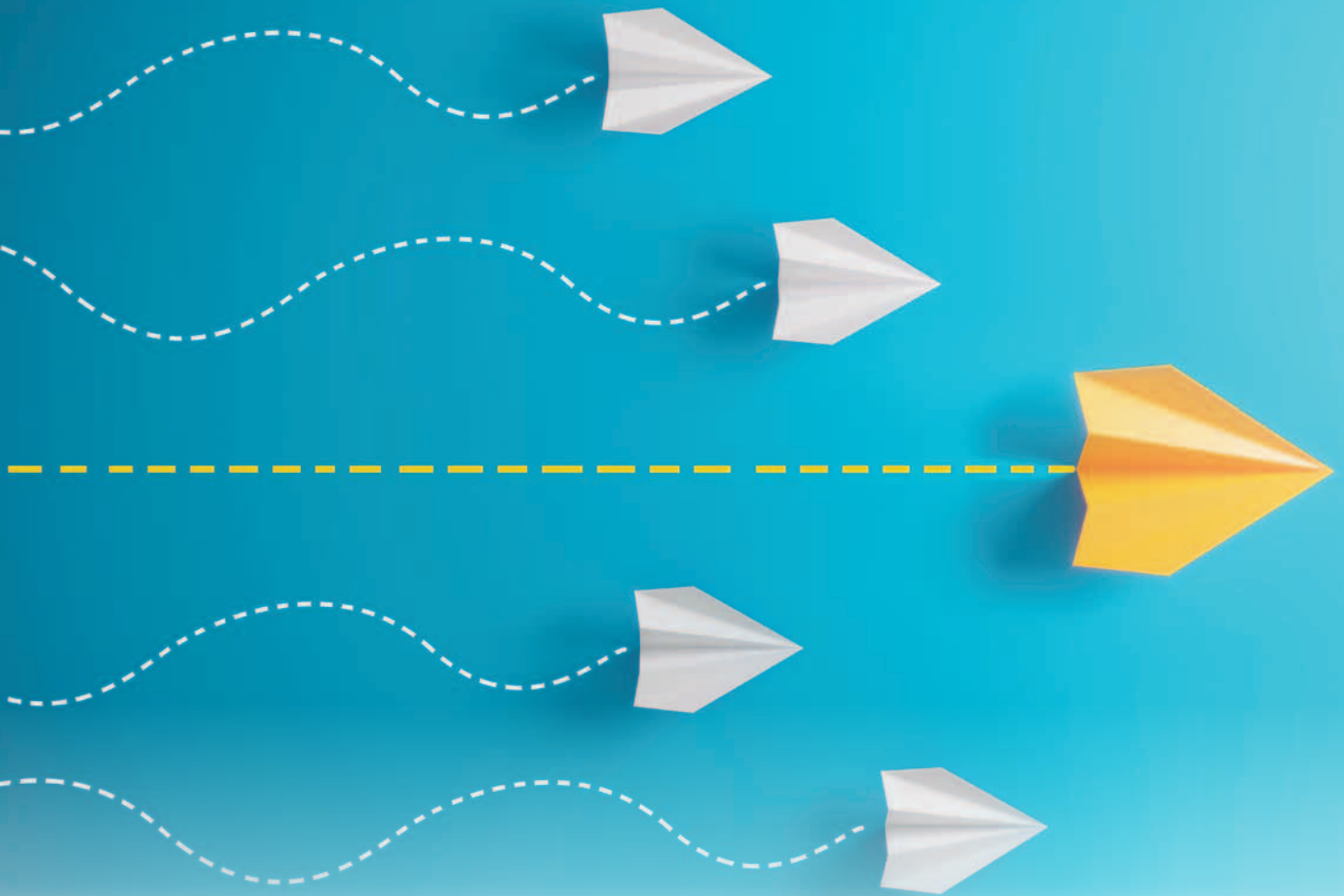
It was suggested that Jane* trial a low-volume, liquid fibre supplement containing 12 g fibre, and minimal calories, protein, carbohydrates and fat. Free samples of this product were sent directly to Jane* via an online ordering procedure. Jane* was instructed to begin taking half of the sachet initially and build up to a full sachet once daily, providing no abdominal discomfort was experienced on initiation. Jane* was scheduled for follow-up in 1 month.

3rd Dietetic appointment: Jane* reported excellent tolerance of the fibre supplements. Jane* reported that her constipation resolved, and she was now opening bowels once daily with no associated discomfort. Jane* also reported an improvement in her regurgitation and reflux symptoms, which she also related to a recent increase in her PPI dosing. Jane* reported that there were now plans in place from her surgical team to consider a peroral endoscopic myotomy (POEM) procedure. Jane* was happy that her weight remained stable and was keen to continue on the fibre supplements due to the improvement in her symptoms. A GP prescription letter was sent for continuation of the fibre supplements, and this was continuously monitored until Jane* had her POEM procedure.

*Name has been changed to ensure patient anonymity.



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