



Practical management and treatment of Lower Bowel Dysfunction

W45, 16 October 2012 14:00 - 18:00

Start	End	Topic	Speakers
14:00	14:05	Introduction	<ul style="list-style-type: none"> • Julia Herbert
14:05	14:45	Anatomy of Lower Bowel Dysfunction - Common problems	<ul style="list-style-type: none"> • Christine Norton
14:45	15:20	Assessment of Lower bowel dysfunction	<ul style="list-style-type: none"> • Rona Mackenzie
15:20	15:30	Questions	All
15:30	16:00	Break	None
16:00	16:30	Treatment of anal incontinence	<ul style="list-style-type: none"> • Julia Herbert
16:30	17:00	Treatment of constipation / difficult defecation	<ul style="list-style-type: none"> • Patricia Evans
17:00	17:10	Questions	All
17:10	17:40	Other management strategies	<ul style="list-style-type: none"> • Julia Herbert
17:40	18:00	Discussion	All

Aims of course/workshop

This educational course will be delivered by clinicians working in the speciality of lower bowel dysfunction. The course content covers the pathophysiology and anatomy related to the lower bowel but also covers in more depth a range of conservative therapies that can be used to improve the quality of life of people who have lower bowel dysfunction; in particular anal incontinence and difficult defecation or constipation. The course is intended to give clinicians, both new to the speciality or with some experience, ideas about extending their clinical practice. It is also an opportunity to raise the awareness of bowel dysfunction in a society that predominantly focuses on bladder dysfunction.

The course will be delivered in a lecture

Educational Objectives

This course provides a range of evidence based approaches to the management and treatment of lower bowel dysfunction that are supported by a sound introduction to the pathophysiology of common conditions. The faculty represents an interdisciplinary approach of specialist nurses and physiotherapists who have extensive experience of working within this subspeciality.

Educational Course : Practical treatment and management of Lower Bowel Dysfunction

We hope that you will find this workshop stimulating and that it will add to your clinical practice enabling you to address problems of Lower Bowel Dysfunction with your patients.

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Anatomy of Lower Bowel Dysfunction – Common problems

Christine Norton PhD MA RN

Background

Faecal incontinence (FI) may be defined as involuntary loss of stool that is a social or hygienic problem (1). Anal incontinence additionally involves inability to control passage of flatus. FI affects between 1-15% of adults to at least some extent (2-6), depending on the definition employed. FI is probably a significant limitation on quality of life for 0.5-1% of adults (2). Although FI increases in prevalence with advancing age and disability, it also affects large numbers of healthy adults in middle age. Somewhat surprisingly, in most large community studies the prevalence in men and women is similar, although women tend to have more severe and frequent symptoms, and certainly present more often for clinical care.

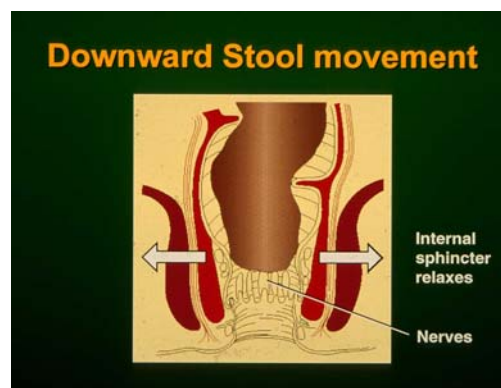
FI has an understandably profound impact on a patient's quality of life, leading to major social and psychological impact in many cases (7;8). As a stigmatised condition, it leads to embarrassment and shame, often combined with reluctance to admit the problem and present for help from healthcare professionals. Some people lack a vocabulary with which to explain their symptoms, or assume that FI is an inevitable consequence of childbirth, diarrhoeal disease or anal surgery. The impact

appears to be very individual, and some cope well, but others live in fear of being caught out in public and map all activities around the likely availability of easy access to toilet facilities (9). Increasing recognition of the importance of the patient perspective and impact on quality of life has led to recent efforts to develop standardised and validated tools to add this dimension to outcome measures for FI (10-12), in addition to the somewhat simplistic “scores” that presume that number of episodes equate to “severity” (13;14). Those patients with the most severe symptoms and impact on quality of life are the most likely to seek help (4).

Anatomy & Physiology

When stool enters the rectum the internal anal sphincter muscle automatically relaxes and opens up the top of the anal canal. This is normal and allows stool to enter the upper anal canal to be “sampled” by the very sensitive nerve cells in the upper anal canal (Figure 1). People with normal sensation can easily tell the difference between wind (gas, also called *flatus*), which can safely be passed if it is socially convenient without fear of soiling, *diarrhoea* (very loose or runny stools needing urgent attention and access to a toilet) and a normal stool. Most people just know what is in the rectum without really having to think about it.

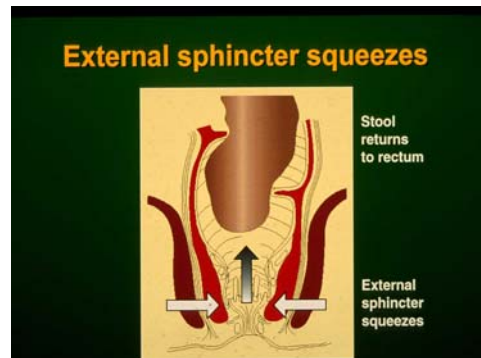
FIGURE 1 Internal sphincter relaxation when the rectum is full



Around the internal anal sphincter is the *external anal sphincter*, which is much thicker. This is the muscle around the anus that you can deliberately squeeze. Just like the muscles in the arm or leg, a person can decide when to use this muscle. If a normal stool is sensed and it is not convenient to find a toilet at that moment, bowel emptying is delayed by squeezing the external anal sphincter. Squeezing the external sphincter ensures that the stool is not simply expelled as soon as it enters the rectum, and in fact the stool is pushed back up out of the anal canal (Figure 2). For most people this is not a deliberate action - you should not need to think, “I must

squeeze my anal sphincter muscles so that I do not have a bowel accident” - but this is actually what you do, subconsciously without really thinking about it.

FIGURE 2



This external sphincter squeeze does not need to last all the time until the toilet is found. Stool is pushed back into the rectum, and the rectum relaxes and so that the urge to empty the bowel is resisted and wears off.

For most people, an urge to empty the bowel is felt, but if the time and place are not right, it is possible to delay bowel emptying, and the feeling of needing to go wears off very soon. Most people can then forget about the bowel for a while, and some can put off bowel emptying almost indefinitely, but may get reminders that the bowel is full at intervals until it is emptied. Continually resisting the urge to empty the bowel or ignoring the *call to stool* can lead to constipation, as the longer the stools stay in the colon and rectum, the more fluid is absorbed and the harder the stools become.

Pathophysiology

FI is a symptom arising from diverse aetiologies, which often co-exist in the same individual. Typically, patients complain of urgency and urge incontinence, often indicating external sphincter weakness or damage (15), or passive soiling secondary to internal anal sphincter disruption or atrophy (16). Both symptoms can be present in the same individual. Stool consistency, bowel motility, sensation, completeness of evacuation and physical or mental abilities for self-care may each have an impact. The most common causes and contributing factors are summarised in Table 1.

It is this multiple pathology that often enables FI symptoms to be reversed by conservative means. Even in patients with sphincter trauma, there may well be an element of residual function that can be improved, or other factors such as stool consistency, toilet habit, complete evacuation, psychological coping and toilet access can be optimised. In practice, although sphincter damage is commonly found when

these patients are imaged, careful history will often reveal that the patient has not been symptomatic continuously following the trauma incident. Other factors have contributed to symptom development, and these can be modified.

Table 1: Aetiologies of faecal incontinence

External sphincter disruption and/or internal sphincter disruption	Obstetric injury, congenital anomaly, iatrogenic following colorectal surgery (such as haemorrhoidectomy or sphincterotomy), impalement injuries, idiopathic degeneration
Diarrhoea/loose stool	Inflammatory bowel disease, irritable bowel syndrome, gastrointestinal infections, dietary sensitivities (eg lactose or fructose intolerance, caffeine sensitivity, excess alcohol, artificial sugars), medications (eg orlistat, antibiotics), celiac disease, anxiety, radiation enteropathy
Loss of sensation	Neurological disease or injury (e.g. spinal cord injury, spina bifida, multiple sclerosis, diabetic neuropathy)
Constipation or incomplete evacuation	Frailty, immobility, stool impaction, rectocele or pelvic floor dysfunction, neurological disease or injury, medications
Anorectal pathology	Rectal prolapse, 3 rd degree hemorrhoids, anal fistula
Physical disabilities with toileting difficulties	Neurological disease or injury, frail elderly people, poor toileting facilities, lack of carer availability
Mental capacity to comply with social norms for toilet behaviour	Severe learning difficulties, confusion, advanced dementia
Idiopathic	Cause unknown

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Assessment of Lower Bowel Dysfunction

Rona Mackenzie RN, BA (Hons)

Altered bowel habits can have a major impact on the quality of life of individuals and due to the private nature of defaecation there is often reluctance to share these symptoms with health care professionals. The difficulty in explaining symptoms and uncertainty of appropriate language to be used may contribute to this reluctance. Individuals can present to healthcare professionals for a variety of reasons and in a variety of settings, so the opportunity to seek further information should be taken, when bothersome symptoms are disclosed by individuals.

In the UK, the National Institute for Health and Clinical Excellence provide guidance on the management of faecal incontinence in adults. These recommendations should be followed in clinical practice¹.

In order to identify the underlying cause / causes of the problem a structured assessment needs to be undertaken, so that a patient centred individual treatment plan can be developed.

Bowel habits vary between individuals and cultures with a “normal” bowel habit varying from three times day to three times per week. In simplistic terms the individual needs to pass stools that are a consistency that can be held in the rectum, but not so hard or bulky to be difficult to evacuate, to have anal sphincter muscles and pelvic floor muscles capable of controlling the exit from the bowel, also coordinated muscular activity to aid expulsion of the stool.

The main presenting problems include faecal incontinence, constipation and evacuation disorders. There are many factors that can compromise the delicate control balance and it is only by careful assessment can the causative or risk factors be identified.

Assessment includes history taking, observation and examination.

- Presenting symptoms, duration of symptoms, trigger for onset. Degree of bother to the individual, how are they coping / managing the situation and what is their understanding of the dysfunction.
- Bowel habits; frequency and consistency of stool, any degree of urgency, how long can they delay. Presence of blood or mucous in the stool, on wiping or in the toilet. Any associated pain – rectal or abdominal. Abdominal bloating. Do they need to strain to empty out or digitate anally or vaginally or support the perineum.

- Inability / difficulty in controlling solid or liquid stool or flatus. Quantity and frequency of occurrence. Is it associated with sensation or is it passive. Does it occur day / night.
- Previous and present medical, surgical and obstetric history.
- Present medication, prescribed and self-purchased.
- Urinary symptoms.
- Diet and fluid intake.
- Mobility.
- Social history including, access to toilet facilities, availability of carers if required. Need to travel to work or restricted access to facilities when at work. Recent visits overseas. Impact of symptoms on daily life and relationships.
- Cognitive assessment, if required.

The following symptoms are identified as “**red flags**” and when present the individual requires prompt referral to their medical practitioner to exclude an underlying disease or pathology.

- change in bowel habit to loose or more frequency stools, persistent for six or more weeks
- weight loss / loss of appetite
- family history of bowel pathology
- nocturnal evacuation
- abdominal / rectal pain
- blood in stools, or black tarry stools
- bleeding per rectum

Physical Examination

Inspection

- Integrity of perianal skin, presence of faecal soiling, haemorrhoids, skin tags, anal mucosa or rectal prolapse or anal fissure.
- Anal closure at rest.
- Perineal scars due to tears, episiotomy or trauma. Loss of perineal body.
- Evidence of posterior vaginal wall defect at rest and on straining.
- Perineal descent at rest and on straining.

Anorectal Examination to establish:

- Presence of faecal material in the rectum, noting consistency and amount.
- Anal and rectal sensation.
- Function of deep layers of the pelvic floor complex, puborectalis, the internal and external anal sphincters and superficial pelvic floor muscles.

Further test and investigations

It may be necessary for further investigations to be undertaken. These include stool samples to the laboratory, colonic transit studies, barium enema, sigmoidoscopy, colonoscopy, anal manometry and ultrasound, defaecating proctogram.

Standardised assessment tools

In clinical practice assessment tools are frequently developed within the hospital or clinical unit, so are not nationally standardised and may be tailored to meet the clinical needs of the client group being cared for. Simple food diaries and records of bowel actions can provide details to be shared with the clinician. Assessment tools may incorporate validated tools which can be used to establish a baseline and monitor progress during conservative treatment and management. Examples of these include:

- Rome III criteria for functional constipation²
- St Marks Faecal continence Score³
- ICS Standardisation of terminology of pelvic floor muscle function and dysfunction⁴
- The Bristol Stool Form Scale⁵

Summary

The key to the successful treatment and management of individuals with lower bowel dysfunction is thorough assessment to accurately identify the underlying problems.

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6. Recommended reading

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Treatment of anal incontinence

Julia H Herbert Grad Dip Phys MSc MCSP

Anal incontinence is a condition which whilst not usually life threatening seriously affects the quality of life of sufferers. Having difficulty controlling wind or the need to open one's bowels is not a subject that is easy to talk about with family or friends; even when attending a hospital colorectal clinic some people are still unable to disclose that they are incontinent of faeces (Johanson & Lafferty 1995).

Anal incontinence is complex in its aetiology and may include: -

- damage to the anal sphincters levator ani and nerves during childbirth
- damage due to chronic constipation
- rectal prolapse and recto-vaginal prolapse
- diarrhoea due to inflammatory bowel disease
- anal surgery – anal stretch, haemorrhoidectomy, sphincterotomy
- faecal impaction with overflow
- congenital or iatrogenic sphincter damage

Before commencing conservative therapy it is essential that a thorough assessment is undertaken including a physical examination of the ano-rectum. It is important to assess the function of both the deep layers of the pelvic floor complex in particular the puborectalis as well as the internal (IAS) and external anal sphincter (EAS) and superficial pelvic floor muscles.

A weakened puborectalis will produce a loss of the ano-rectal angle, (which should normally be 90 degrees) and the protection of the 'flap-valve' that is created by its anterior pull against the ano-rectal junction.

Although commonly associated with difficult defaecation a female may experience faecal incontinence due incomplete emptying of the rectum caused by a posterior vaginal wall prolapse. If there is an associated weakness of the internal and external anal sphincter stool remaining at the ano-rectal junction may escape through the anus during the day causing passive soiling. It may be appropriate to assess a

female patient vaginally to assess for posterior vaginal wall prolapse and to assess the integrity of the anterior pelvic floor muscles.

The ability to produce a voluntary contraction of the external anal sphincter and puborectalis should be noted along with the need to breath-hold or use inappropriate accessory muscles. It is suggested that the transverse abdominus (Sapsford 2002, Bø 2005) and the glutei (Peshers 2001) may work in association with the pelvic floor complex, however it is felt that in order to be effective in a training programme the exercises must be specific to the target muscle (Bø 2005).

The reaction of the external sphincter and puborectalis during raised intrabdominal pressure can be assessed by asking the patient to cough – the external sphincter and puborectalis should tighten in a reflex response to prevent stool being lost from the anus. The reaction of the puborectalis and EAS should also be tested during Valsalva (bearing down) as there may be a combined problem of difficult defaecation leading to incomplete emptying and associated sphincter weakness exposing the patient to incontinence. In some patients there will be a paradoxical contraction of the puborectalis and EAS the latter also known as an ‘anismus’.

This physical assessment must then be linked to the person’s description of ‘their problem’. It is important to establish exactly what the person experiences when they have incontinence. The following questions may be helpful in identifying the probable type of ano–rectal dysfunction that is contributing to their incontinence and therefore may assist in deciding on the most appropriate therapy.

Loss of timing / Strength EAS & Puborectalis

- Do you loose stool on movement –eg. Bending lifting?
- Do you loose stool on coughing, sneezing?
- Do you experience urgency to defaecate – how long can you defer?
- Do you experience urge incontinence of faeces?
- Can you control wind?

Loss of resting tone IAS

- Are you aware of leakage? (passive leakage)
- Do you have difficulty wiping clean? (may also be due to skin tags, rectal prolapse or haemorrhoids)

Altered rectal sensation / compliance

- Can you discriminate between wind, loose stool and formed stool?
- Urgency
- Incomplete emptying (also suggestive of posterior vaginal wall prolapse/ rectal mucosal prolapse or paradoxical contraction)

Pelvic floor muscle exercises

Exercises targeting the whole pelvic floor or more specifically targeting the EAS have widely been used to treat faecal incontinence. Unfortunately as is the case with pelvic floor muscle exercises for urinary incontinence there is little consensus as to the optimum treatment regimen or length of training. The Cochrane review (Norton 2006) states that: -

The limited number of identified trials together with their methodological weaknesses do not allow a reliable assessment of the possible role of sphincter exercises and biofeedback therapy in the management of people with faecal incontinence. There is a suggestion that some elements of biofeedback therapy and sphincter exercises may have a therapeutic effect, but this is not certain. Larger well-designed trials are needed to enable safe conclusions.

There is obviously a need for further research in this area, however in clinical practice teaching these exercises can help patients to improve or overcome their symptoms of faecal incontinence. Therefore, until such time as research determines the most effective treatment regimen the basic principles of muscle training should be adhered to. The patient must be able to identify and voluntarily contract either the external anal sphincter and / or the puborectalis. They must then be instructed in an exercise programme that exercises the muscles to fatigue in order to produce overload which is necessary to increase strength (Bø 1994).

Length of training

The Cochrane review of pelvic floor muscle exercises for urinary incontinence (2006) concluded that they were most effective in those patients who continued for at least 3 months. This time frame is slightly less but in keeping with the American College of Sports Medicine (1990) who recommend that in general, strength training for striated muscle fibres should be for at least 5 months and that there is a potential for further improvements after that time.

For patients who experience faecal incontinence during activity they need to be able to contract the EAS prior to exertion or rises in intra-abdominal pressure, so practicing quick contractions as well as performing endurance training may be helpful.

Biofeedback

Biofeedback is commonly used to assist pelvic floor muscle training and can take many forms. The simplest is that of the patient palpating or touching the pelvic floor muscles to feel the contraction. Clinically a range of modalities may be used to give feedback to the patient on the activity of their muscles for example: -

- Manometric
- Electromyography (EMG)
- Dynamic Ultrasound

Unfortunately the literature does not report favorably on the effectiveness of biofeedback for the treatment of faecal incontinence but this is probably largely due to the wide variation of methods used and exactly how the biofeedback is used to re-train function. This is frequently not reported in the literature and therefore it makes comparing trials difficult. Probably the earliest reports of the use of biofeedback to treat faecal incontinence is Engel and colleagues (1974), who describe the use of operant conditioning. The aim was for the patient to learn to enhance the presumed reflex contraction of the EAS in response to a reflex relaxation of the IAS when the rectum was filled (recto-anal inhibitory reflex - RAIR). It has however been suggested since that the EAS response is mostly a voluntary response, although usually this occurs at a subconscious level. (Whitehead 1981).

The clinical application of EMG biofeedback involves the use of either skin surface electrodes positioned close to the anus or an anal electrode positioned in the anal canal. It must be remembered that both these applications give a global picture of the electrical activity in the area and are not as specific as single needle EMG which is almost exclusively reserved for research purposes. Surface EMG can not isolate the individual activity of the EAS and does not give any indication of the activity of the smooth muscle of the IAS.

Anal manometry is thus probably better suited for feedback on the activity of the IAS and EAS. At rest it is expected that up to 80% of the closure pressure of the anus is produced by the IAS. Observing the reading on balloon manometry at rest reflects the activity of the IAS, a low reading is suggestive of weakness or damage. On most equipment this is measured in cmH₂O and the normal range is 60 - 80 cmH₂O. On voluntary contraction it would be expected to increase by 100% to a range of 120 - 160 cmH₂O reflective of the function of the EAS. Care is needed however, when using balloon manometry, to ensure that the patient is not breath holding or contracting the upper abdominals, as this will increase intra abdominal pressure and will cause a false reading on the manometry probe. The same may happen if the patient only contracts the gluteal muscles by clenching their buttocks not the EAS.

A double or triple balloon probe allows the biofeedback therapist to simulate rectal filling with air or water in a distal balloon, triggering the RAIR response and allowing the patient to re learn the subconscious contraction of the EAS which may be shown

to them on a computer monitor. It is thought that this type of inhibition to rectal filling requires a sustained sub maximal contraction in excess of 10 seconds.

Allowing the patient to see that they can produce a volitional contraction that will control the urge to defaecate can be extremely powerful in them overcoming the anxiety associated with the fear of having an episode of faecal incontinence. Many report that even when they no longer experience episodes of incontinence the fear of one happening greatly affects their quality of life.

Neuromuscular Electrical Stimulation (NMES)

Electrical stimulation may be given to produce a contraction of the external anal sphincter, the superficial and deep pelvic floor muscles.

The Cochrane review (Hosker 2006) describes it being used in two main situations: to improve poorly functioning anal sphincters and to optimize gracilis neosphincters. The review suggests that it is administered in different ways, using many different stimulation parameters and is often used in conjunction with other therapies.

Treatment parameters may be selected to mimic those known to occur physiologically. The pelvic floor muscles are thought to respond to a range of between 5 – 50 Hz, the tonic fibres of the pelvic floor muscles responding to the lower frequencies and the phasic fibres responding to higher frequencies. Unfortunately there have been few randomized controlled trials and so there is little guidance in the literature as to the optimum frequency for faecal incontinence. Many view the use of NMES as an adjunct to other therapy and as such will choose higher frequencies such as 35 or 40 Hz in order to maximize the 'feel' of a contraction during stimulation phases and assist the re-education process.(Valancogne 2004).

The role of the therapist when using stimulation is to fully understand the various parameters such as pulse duration, duty cycle including ramping and intensity in order that adjustments may be made so that the patient does not find the process uncomfortable. For example a patient that is very sensitive to stimulation and finds it difficult to reach an intensity at a therapeutic level producing a motor contraction of the muscles because the sensation threshold is low, may find that by reducing the pulse duration to say 150µs from the normally used 250µs or 350µs may be sufficient to make the stimulation tolerable. It is important that the therapist observes that the stimulation reaches a sufficient intensity to produce an electrically induced contraction of the pelvic floor muscles; otherwise the stimulation may be ineffective.

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Therapy and management for constipation / difficult defaecation

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Introduction

One of the most common digestive complaints is constipation and it has been estimated that £46 million is spent each year in England alone on laxatives (DH, 2000), but these tend to lose their effect over time. It is more common in women than men, and prevalence increases with age. Reported prevalence rates in the UK vary widely between studies, from 8.2% - 52% of women, and 39% of men (Pettigrew et al, 1997).

Definition

Constipation is a symptom-based disorder defined as “unsatisfactory defecation and is characterized by infrequent stools, difficult stool passage, or both. Difficult stool passage includes straining, a sense of difficulty passing stool, incomplete evacuation, hard / lumpy stools, prolonged time to stool or need for manual manoeuvres to pass stool” (American College of Gastroenterology Chronic Constipation Task Force, 2005). Stools could be dry and hard, and may be abnormally large, or small. It is a symptom, not a disease, reflecting either slowed colonic transit and/or impairment of rectal emptying (Emmanuel, 2004). Therefore it is a subjective report of an individual’s bowel function. In addition, there is a difference in what doctors and patients perceive as constipation. In view of the difficulty in defining constipation, an international committee has recommended a definition of chronic functional constipation, known as the Rome Criteria, which are now in their third edition (Longstreth et al, 2006) (Table 1).

Table 1: Rome III Criteria for Functional constipation

1. Must include 2 or more of the following:
 - a. Straining during at least 25% of defecations
 - b. Lumpy or hard stools in at least 25% of defecations
 - c. Sensation of incomplete evacuation for at least 25% of defecations
 - d. Sensation of anorectal obstruction / blockage for at least 25% of defecations
 - e. Manual manoeuvres to facilitate at least 25% of defecations (e.g. digital evacuation, support of the pelvic floor)
 - f. Fewer than 3 defecations per week
2. Loose stools are rarely present without the use of laxatives
3. There are insufficient criteria for the diagnosis of irritable bowel syndrome

** Criteria fulfilled for at least 3 months with symptom onset at least 6 months prior to diagnosis.*

Based on the Rome criteria, constipation has been classified on the basis of stool frequency, consistency and difficulty of defecation. In most cases, there is no obvious physical or pathological cause; this known as idiopathic, functional constipation.

Normal expectations of bowel habit vary between individuals and cultures with a “normal” bowel habit varying from every day to three times per week (Epstein et al, 2009). Constipation can have structural, chemical or microbiological causes (Montague et al, 2005). A recent change in bowel habit can indicate organic cause indicating pathology which will require further investigation (Epstein et al, 2009).

There is a need to rule out significant aetiology when the following “red flags” are apparent:

- change in bowel habit
- weight loss
- family history of bowel pathology
- nocturnal evacuation
- abdominal pain
- blood in stools
- bleeding per rectum
- tenesmus

(adapted from Epstein et al, 2009. Montague et al, 2005)

Disorders of defaecation (rectosigmoid outlet delay) refer to anorectal dysfunction. In this instance there is prolonged defaecation and feelings of anal blockage requiring manual manoeuvres to aid in the passage of the stool. It can also be caused by painful anorectal diseases like anal fissures, or anorectal incoordination (Whitehead et al, 2009; Lembo & Cammillieri, 2003).

Ageing does not cause constipation as such, but the increasing prevalence of constipation in the elderly may reflect changes in mobility, diet, fluid intake and polypharmacy (Pettigrew et al, 1997).

Treatment of constipation

Initial and Primary Care Management

Most cases of constipation are successfully treated within primary care with simple non-pharmacological measures. Medication with constipating side-effects should be reviewed and discontinued, if possible. Patient education is an essential part of treatment and an understanding of normal bowel function goes a long way towards dispelling patient-held myths and misconceptions of constipation. For instance, the assertion that it is normal to have a bowel movement from between three times a day to three times per week can be a revelation, and a release from the tyranny of daily bowel action.

Simple measures start with a trial of increased fibre, fluid intake, exercise and lifestyle changes. However there is little evidence that increasing dietary fibre is effective in the management of severely constipated patients and may induce symptoms such as abdominal distension and flatulence, particularly in those patients with a slow gut transit. In addition, there is no evidence that stool consistency and constipation can be affected by increasing fluid intake or exercise (Muller-Lissner et al, 2005), but if the patient is dehydrated then increasing fluid intake may help. Lifestyle changes around a toileting routine (Table 5) to instil good defaecatory habits may help. These may have been forgotten due to a frenetic pace of life which leaves little time for unhurried defaecation and in which the urge to defaecate is often ignored.

Table 5: Recommended Toileting Routine

- | |
|---|
| <ul style="list-style-type: none">• Regular attempt 20-30 minutes after breakfast (this will capitalise on the gastro-colic reflex and encourage defecation at a time when gut-motility is at its height)• Unhurried defaecation, about 10 minutes, to ensure defaecation is complete• Don't ignore the urge to defaecate |
|---|

- People with limited mobility should have help to get to the toilet
- Supported seating if the person is unsteady on the toilet
- Adopt a good functional position for defecation (knees flexed and above hips – put feet up on a footstool if necessary to achieve this, lean forward with elbows resting on knees and relax)
- Adequate privacy

If there is little or no response within 2-3 weeks, then laxatives can be administered. (Malek, 2003). The lowest effective dose of a laxative should be used, and should be reduced as soon as symptoms begin to resolve. Treatment starts with a bulk-forming laxative. If stools remain hard then add or switch to an osmotic laxative. If stools are soft, but difficult to pass or defaecation is incomplete, then a stimulant laxative may be added. Patients should be advised that laxatives can be stopped once the stools become soft and easy to pass. In the elderly, faecal impaction is initially treated with manual evacuation. Should the stool be beyond the reach of the examining finger, then enemas are the next step.

Biofeedback

At the author's Hospital, biofeedback is a behavioural therapy that holistically incorporates symptom assessment, education, bowel retraining, muscle re-education and psychological support (Duncan et al, 2003). The aim of biofeedback therapy is for the patient to improve and take control of their bowel function without resorting to the use of laxatives (Collins & Burch, 2009). It seeks to normalise bowel function. This is achieved by relaying information about a normally subconscious physiological process to a patient in real time. The patient may learn to change this process, substituting previous behaviours with correct defaecatory patterns (Horton, 2004). The success rate of biofeedback therapy in the treatment of intractable constipation has been reported up to 80% in some studies (Chiarioni et al, 2005; Glia et al, 1997). Patients with underlying psychological conditions will find psychological counselling a helpful adjunct to biofeedback therapy. Biofeedback is normally carried out in a secondary or tertiary referral centre and is usually a nurse or therapist-led area of care.

Biofeedback usually consists of up to 4 appointments with a clinical specialist at approximately monthly intervals. Each session lasts between 30-60 minutes and patients are instructed in a series of previously described techniques (Horton, 2004) that have proven effectiveness (Chiotakakou-Faliakou et al, 1998) and efficacy (Emmanuel and Kamm, 2001). Patients may be asked to briefly lie on their right side facing the therapist. Whilst in this position a balloon will be inserted into the rectum and inflated with 50 mls of air to stimulate a sensation of needing to defecate. The patient is then asked to expel the balloon and if necessary will be taught how to push without straining or increasing anal sphincter activity (Emmanuel & Kamm, 2001). Patients are also taught to defecate by bracing the abdominal muscles, while relaxing the pelvic floor muscles. Patients who digitate to empty their rectum are asked to stop doing so and laxative use is discontinued. During these appointments the therapist will also advise the patient about diet and fluid intake, frequency and length of toilet visits, timing of bowel evacuations, seating and posture for defecation (Horton, 2004). Patients also receive education about normal gut function and discussion of possible psychological or social factors that may be influencing gut function will take place.

Surgery

Surgery for slow transit constipation should only be considered as a last resort when all other measures have failed. The preferred procedure is sub-total colectomy and ileorectal anastomosis. Long term success rates are poor, less than 50% (Kamm et al, 1988), with complications ranging from diarrhoea, faecal incontinence and recurrent obstruction to pelvic sepsis. Patient selection is paramount. Success is more likely in patients with slow transit constipation in the absence of recto-sigmoid outlet delay and psychological disorders.

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Other management strategies

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Anal incontinence

It is without doubt that the conservative treatment of lower bowel dysfunction is multifactorial and often successful treatment is due to a combination of approaches. Other useful strategies are diet – in particular fibre modification. Some patients do not eat sufficient fibre resulting in a loose, sloppy stool which can be more difficult to retain with weak muscles or indeed can be difficult to empty effectively. These patients often benefit from increasing their dietary fibre intake and sometimes may need the addition of a bulking agent such as Ispaghula husk. Results from a random, controlled pilot study showed that ingesting a soluble fiber supplement, containing either psyllium (7 g/d) or gum Arabic (25 g/d), was associated with a significant decrease in the percentage of incontinent stools compared to a placebo (Bliss et al., 2001).

Loperamide (“Imodium”) is seen as the drug of first choice in patients with anal incontinence associated with loose stool, urgency, or passive loss of soft/liquid stool (Kamm 1998). It has several potentially helpful modes of action, including reducing colonic motility and increasing colonic water re-absorption, thereby firming stool consistency, dampening the gastro-colic response, and raising anal sphincter pressures (Sun et al. 1997, Read et al 1982). Loperamide is well tolerated by the majority of patients, and is safe in doses up to 16mg daily, although many patients obtain benefit from 2-4mg daily or PRN. Onset of action is within 30-60 minutes, so it is useful on a PRN basis and most patients do not seem to need to escalate the dose over time. Patients with post-prandial urgency should take Loperamide 30 minutes before eating. Those with early morning urgency can take a dose at night. Those who fear going out should take it before activities. It is also important to consider other existing medication which may give a side effect of loose stool for example - oral diabetic medication, non-steroidal anti-inflammatories or antibiotics).

Another management strategy which may suit some patients is the Peristeen anal plug. This is a small polyurethane plug which can be inserted at the ano-rectal junction using a lubricant (as you would a suppository). It is useful to try with a sample pack to see if the patient can tolerate the plug in situ. Some patients with normal or hypersensitive rectal sensation are unable to tolerate it. For those that can, it can be extremely useful allowing them to regain some of their social activities

previously impossible because of their incontinence for example, to go to the gym, to go swimming, to go to a special family occasion.

For the more complex patient with anal incontinence difficulties, it may be worthwhile considering an anal douche or anal irrigation.

An anal douche is a technique whereby a small amount of warm water is introduced into the rectum in the same way as using an enema.

This can allow the rectum to be effectively cleaned and can be very helpful in patients who have both incomplete evacuation and sphincter weakness in preventing staining episodes during the day.

Anal irrigation is a technique whereby the patient is able to irrigate the rectum and lower colon using a specially developed kit. Approximately 500 – 750 mls of warm water is infused into the lower bowel whilst the patient is sitting on the toilet. This enables the patient to fully empty the lower bowel and can give them a feeling of 'complete emptying' if they suffer from difficult defaecation or immense confidence that they are 'empty' and 'will not leak' if they have faecal incontinence.

The Peristeen anal irrigation kit is licensed for use on prescription in the United Kingdom (UK). Whilst anal irrigation has been used for a number of years this was probably one of the first kits available in the UK to have been specifically developed for the purpose rather than one adapted from another use. The Peristeen system uses an anal catheter that has an inflatable balloon at the tip. The balloon is inflated to secure the catheter in place at the top of the anal canal so that during the irrigation procedure it does not need to be held in place.

The Qufora – toilet system (also available on prescription in the UK) uses a similar amount of irrigation fluid but uses a gravity feed system. This product has an anal cone which is held in place in the anal canal during the irrigation procedure.

Anal irrigation has also been shown to be extremely effective in managing both faecal incontinence and constipation in spinal cord injured patients (Christensen et al 2006).

Constipation / Difficult defaecation

It is important to review the history of medications (laxatives) that have previously been tried to treat the problem. Often patients self-medicate for many years and may have not chosen the correct doses or type of laxative for their particular problem.

Some patients with difficult defaecation or incomplete emptying may be better suited to a rectal preparation rather than taking an oral laxative for example a stimulating suppository such as glycerin or Bisocodyl or an enema.

NICE (2010) have recommended that a laxative called 'Prucalopride' be considered in women who have chronic constipation. Prucalopride is recommended as an option for the treatment of chronic constipation only in women for whom treatment with at least two laxatives from different classes, at the highest tolerated recommended doses for at least 6 months, has failed to provide adequate relief and invasive treatment for constipation is being considered. This laxative is a selective serotonin (5-HT₄) receptor agonist that predominantly stimulates colonic motility.

Diet is commonly a big issue in this group of patients. Whilst there is no definitive 'best diet' for constipation, various studies have highlighted certain food types such as prunes, figs and drinks such as coffee may be of benefit to some? However, two systematic reviews showed few studies have adequate power, rigorous designs, or controlled methods to support high quality, reliable recommendations about dietary fiber (Kenny & Skelly, 2001; Tramonte et al., 1997).

In clinical practice we have found it helpful to get the patients to complete a diet sheet. This highlights any gross deficiencies in dietary intake, we have seen patients

with chronic constipation who do not eat breakfast or lunch and maybe have a burger and coke in the evening. Explaining how the gut works and the importance of the food intake may sometimes be all that is required to improve the bowel function.

Regarding fluid intake, in patients with constipation Mueller-Lissner (Muller-Lissner, Kamm et al., 2005) concluded that the available evidence does not support that constipation can be treated solely with fluid intake except in the case of dehydration. The fluid intake of persons with constipation and healthy controls has been shown to be similar (Muller-Lissner, Kamm et al., 2005)

Conclusion

There are a number of modalities that can benefit the patient with Lower Bowel dysfunction. The aetiology of anal incontinence, constipation or difficult defaecation may be complex and is often multifactorial and therefore a combination of treatments may be the best approach. Unfortunately this makes it difficult to evaluate treatment. For many, bowel dysfunction is an even greater taboo than bladder dysfunction but there is a growing interest in helping patients whose lives are affected and with that increasing interest hopefully more opportunities for further research to inform clinical practice.

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Notes

Record your notes from the workshop here