Mistakes in constipation and how to avoid them

Claudia Barber and Jordi Serra

Constipation is a common clinical condition affecting people of all ages worldwide. Its prevalence increases with age and is more frequent in women than men. Constipation is defined as difficult, unsatisfactory, or infrequent defecation. The aetiologies of constipation are multiple, and several diagnostic approaches and treatment options are available. Due to its high frequency and often chronic and benign course, multiple remedies are used, mainly with insufficient evidence. They range from herbal preparations, acupuncture, abdominal massages, homoeopathic products, and dietary interventions to more sophisticated pharmacological medicines and surgical interventions.

The broad spectrum of causes, diagnostic investigations, and management strategies may result in frequent mistakes while managing patients with constipation.

This article highlights ten common mistakes made concerning constipation and how to avoid them based on recently published studies and clinical guidelines. No references to common mistakes made outside the scope of medical management will be discussed, although the authors are aware that these are frequently observed when evaluating patients with constipation.

Mistake 1 Not considering that constipation may encompass a broad spectrum of symptoms

Constipation is a prevalent complaint mainly related to difficult evacuation. However, the word constipation encompasses a broad spectrum of symptoms that differ from one patient to another. Some patients may report infrequent bowel movements, others have several bowel movements per day with straining and hard stool. Some patients also report loose stools with a sensation of incomplete evacuation.

Knowing the specific symptoms reported by every patient is relevant since it may guide the management of each case.[1]

When a patient suffers from constipation, we must ask for the usual defecation pattern (frequency and consistency of stool), and the associated symptoms and signs such as pain, discomfort, abdominal distension, excessive defecation effort, the sensation of incomplete evacuation accompanied or not by manual manoeuvres and for a prolonged duration of defecation. Complementary data of interest include dietary habits, lifestyle, and usual medication, emphasizing the use of laxatives, analgesic drugs, and antidepressants.[2]

In most cases, constipation does not have an underlying organic cause and is considered a functional gastrointestinal disorder. Constipation-predominant irritable bowel syndrome (IBS-C) and functional constipation (FC) are two functional gastrointestinal disorders that share constipation as their primary symptom. Although conceptually, they are two different entities, they can be very similar and even difficult to distinguish in practice. The presence of abdominal pain as the predominant symptom in IBS-C and not in functional constipation may differentiate them.

Functional constipation is defined according to the Rome IV criteria (see Figure 1).[1,3-6]

The consistency of stool is assessed using the Bristol Stool Form Scale (BSFS; Figure 2).[1] The usefulness of this scale has been demonstrated in different studies, and it is considered a reliable indicator of whole gut transit time.[2]

Diagnostic criteria for functional constipation

1. Must include 2 or more of the following

- Straining during more than one-fourth (25%) of defecations
- Lumpy or hard stools (BSFS 1-2) more than one-fourth (25%) of defecations
- Sensation of incomplete evacuation more than one-fourth (25%) of defecations
- Sensation of anorectal obstruction/blockage more than one-fourth (25%) of defecations
- Manual manoeuvers to facilitate more than one-fourth (25%) of defecations (e.g. digital evacuation, support of the pelvic floor)
- Fewer than 3 spontaneous bowel movements per week

2. Loose stools are rarely present without the use of laxatives

3. Insufficient criteria for irritable bowel syndrome

Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis

Figure 1 | Rome IV criteria for the diagnosis of functional constipation

Mistake 2 Prescribing laxatives instead of an adequate exploration

In addition to taking a detailed history, a thorough physical examination is a fundamental step in studying constipation. This should include a complete examination of the abdominal and neurological systems, anal and perineal inspection, and dynamic digital rectal examination (with defecation manoeuvre).[2,7]

The digital rectal examination is mandatory in evaluating a patient with

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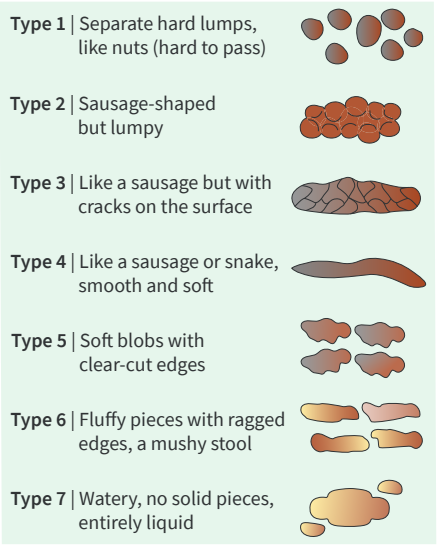

Figure 2 | The Bristol Stool Form Scale (BSFS).

constipation and is the simplest and cheapest clinical tool available for diagnosing anorectal disorders. It can demonstrate bleeding, stool in the rectal ampulla, and structural abnormalities, such as anorectal masses, haemorrhoids, anal fissures, rectal prolapse, and rectoceles which may play a role in constipation.[1,2,8] Moreover, it can be used to identify functional abnormalities.

A proper investigation should be performed at rest and asking the patient to perform a defecation manoeuvre to identify alterations such as dyssynergic anal contraction, excessive or defective anal descent, or other structural abnormalities that are not evident at rest.[1,2,8,9] It has been seen that anal dyssynergia during anorectal examination has a predictive value in expert hands for diagnosing dyssynergic defecation.

Therefore, a good history-taking and physical examination can help approach the aetiopathogenic mechanism of constipation and to decide if objective testing such as colonoscopy, blood sample analysis or functional studies (see mistake 6) should be necessary to identify underlying pathophysiological mechanisms. If not, targeted treatment can be started.

Mistake 3 Not asking for causative medications

Medication consumption is seldom reported spontaneously by patients. However, it has been recognized that constipation is a common side effect of several medications (Figure 3).[1] Hence, not inquiring about the patient's thorough medication history is a crucial mistake in evaluating a patient with constipation. [1,6]

Drugs associated with constipation
Analgesics • Opiates • NSAIDs
Proton pump inhibitors
Anticholinergic antispasmodics (atropine, scopolamine, butylscopolamine, methylscopolamine, trimebutine, pinaverio, mebeverine, papverine)
Antidepressants (tricyclics, selective inhibitors of serotonin reuptake, etc)
Anxiolytics and hypnotics (benzodiazepines, etc)
Antipsychotics and neuroleptics (butyrophenones, phenothiazines, barbiturate, etc)
Anticonvulsants (carbamazepine, phenytoin, chlonazepam, amantadine, etc)
Antiparkinsonian drugs (bromocriptine, levodopa, biperiden, etc)
Antihypertensives • Calcium channel blockers • Diuretics: furosemide • Antiarrhythmic agents: quinidine and derivatives
Bile salt chelators
Biphosphonates
Adrenergic drugs
Drugs containing cations, (e.g., sucralfate, aluminium containing antacids, iron supplements, lithium, bismuth, and calcium)
Antidiarrheal agents
Antihistamines against H1 receptors
Antitussives (codeine)
Cytostatics

Figure 3 | Drugs associated with constipation.

Among the medications that may produce constipation, opioid treatments, whose consumption has increased in Western countries, should always be actively investigated to rule out opioid-induced constipation (OIC).[2,6]

When we detect that the patient is on medications that can produce constipation, a trial to reduce the dose or substitute them should be considered to determine if constipation improves with medication withdrawal.

Mistake 4 Failing to detect alarm symptoms

Constipation is a symptom shared by different gastroenterological and non-gastroenterological diseases. Hence, even though functional constipation and medication-induced constipation are the most prevalent types, it is always recommended to ask the patient about the presence of alarm symptoms.

The alarm symptoms that must always be considered are blood in the stool, unintentional weight loss, anaemia, nocturnal symptoms, fever, and severe abdominal pain. Other alarm criteria are personal or family history of colon cancer, inflammatory bowel disease, intestinal polyposis, or coeliac disease.[2,6,10] An acute presentation with recent changes in bowel habits and symptom onset after fifty years of age should also be considered.

When alarm symptoms are present, complementary tests, including blood sample analysis and colonoscopy, should be carried out.[2]

Mistake 5 Not considering laxative abuse in the evaluation of constipation

The term cathartic colon is a condition whereby the colon is pathologically transformed into a peristaltic inert tube due to the damage to the colonic myenteric nerve plexus from abusing stimulant laxatives, with more significant damage associated with extended periods of abuse and higher doses of stimulant laxatives. These patients complain of severe constipation that is only partially relieved by progressively larger doses of laxatives. Characteristic findings on barium enema imaging traditionally include loss of haustral markings and colonic dilatation.[11]

The largest group that abuses laxatives comprises individuals suffering from an eating disorder such as anorexia or bulimia nervosa. It is also common to find middle-aged or older patients who begin using laxatives when constipated but continue to overuse them. Another group of laxative abusers are patients who use the drugs to cause factitious diarrhoea and may have a factitious disorder.[12]

Medical problems associated with laxative abuse include electrolyte and acid/base changes

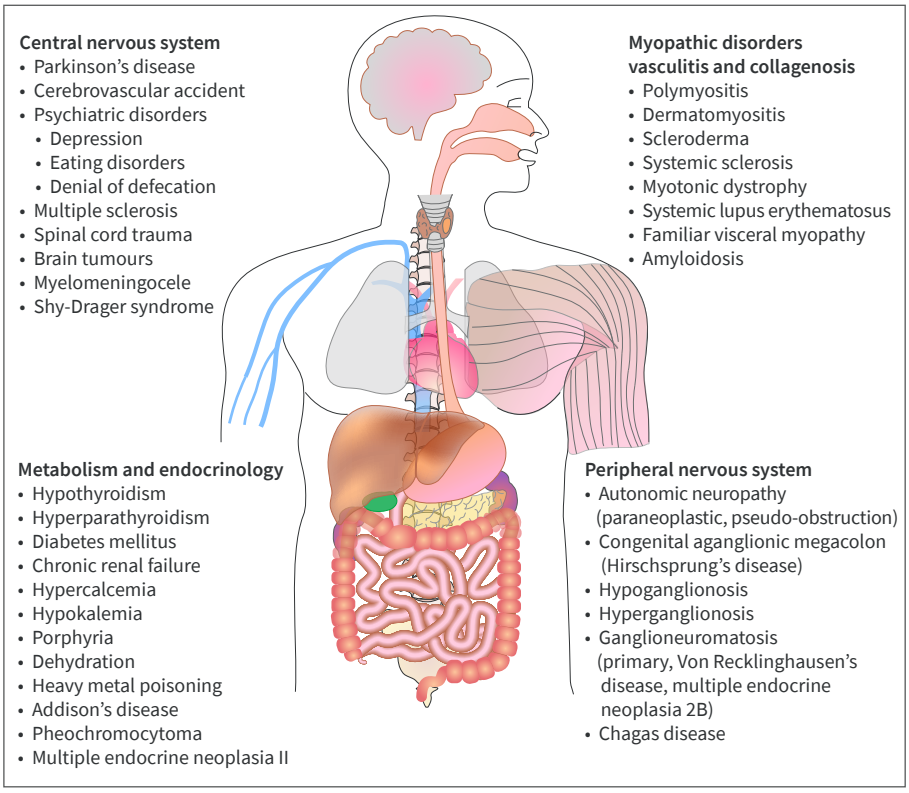

Figure 4 |Non gastrointestinal causes of constipation.

that can affect the renal and cardiovascular systems and may become life-threatening.

We should suspect this entity in patients with alternating diarrhoea, constipation, and other gastrointestinal complaints like recurrent vomiting and weight loss. Checking serum electrolytes and the acid/base status can identify and confirm the severity of the abuse and individuals who may need restorative medical treatment. A psychiatric consultation is recommended for most of these patients.

Mistake 6 Not performing functional studies

Patients with a diagnosis of functional constipation in which other organic causes and warning signs have been ruled out should start first-line therapeutic empirical measures with lifestyle and dietary modifications, including fibre supplementation, and if necessary first-line pharmacological treatment with bulking agents and osmotic laxatives. It is also essential to avoid or reduce medications that can cause constipation. If these measures do not work, advanced functional testing should be considered to determine each patient's pathophysiological mechanisms of constipation.

Subsequently, one should apply the specific therapeutic measures addressed to correct the mechanism of constipation. The functional studies should start evaluating the presence of an evacuation disorder. Anorectal manometry, balloon expulsion test and defecography are the recommended tests at this stage.[2,4,10] According to the results of these tests, it is possible to classify the patient as having a functional defecation disorder, a structural evacuation disorder or a regular (normal) evacuation. In the latter case, the study should be continued to determine the whole gut transit time, for instance, by performing a radiopaque marker test to rule out slow transit constipation. Specific treatments resulting from the functional testing include:

- Biofeedback training for functional defecation disorders
- Evaluation of surgical treatments for structural evacuation disorders
- Upgrading of pharmacological treatments in slow transit constipation

Mistake 7 Disregarding incontinence/ soiling as symptoms of constipation

Faecal incontinence and/or soiling may be produced by constipation. [1] Several studies have shown a positive association between chronic constipation and faecal incontinence. It is frequent in elderly and institutionalized patients. [13] It may also be found in patients with neurological diseases and children with encopresis. [14] Clinically, faecal incontinence appears as a paradoxical leakage of liquid or semi-liquid due to an overflow of faeces retained in the rectum.[10]

In patients with incontinence, a digital rectal examination will assess the degree of rectal occupation by faeces, and the presence of a dyssynergic defecation, with paradoxical contraction of the anal sphincter when asking the patient to perform an evacuation manoeuvre. An abdominal x-ray will reveal the retention of faeces in the colon and, in some cases, a faecaloma. Anorectal manometry and the balloon expulsion test confirm an evacuation disorder as the origin of these symptoms. Besides laxative treatment, biofeedback training may be necessary for these patients to correct the defecation disorder.[13,14]

Mistake 8 Not considering non-gastrointestinal diseases that may cause constipation

Several non-gastrointestinal diseases may cause constipation. These include neurological diseases of the central nervous system, peripheral neuropathies, metabolic and hormonal disorders, myopathic disorders, and systemic diseases (Figure 4).[6,15] In some cases, like Parkinson's disease, constipation may be the initial presentation of a non-gastroenterological disease.

In these cases, or when one of these conditions is suspected, a thorough general physical examination, including a detailed neurological examination, should be performed as it could alert to the possibility of non-gastroenterological disease-causing constipation. The study of the patient should be completed with pertinent blood sample analysis, imaging, electromyography, and further specific investigations depending on the suspected condition.

Mistake 9 Focusing the medical management of constipation exclusively on fibre and bulking agents

In clinical practice, many patients report that they are constipated and feel bloated and distended, despite consuming a significant quantity of dietary fibre. Dietary fibres include several complex, poorly digestible carbohydrates that reach the colon unchanged and are partly fermented by the microbiota. This produces short-chain fatty acids, water, and gas (hydrogen, methane, carbon dioxide). They are usually classified as soluble and insoluble fibres according to their behaviour in aqueous solutions.[4,6,15]

Several studies have shown that soluble fibre improves functional constipation, and the recommended amount of fibre is about 25-30 g per day. However, while this measure may improve the defecatory frequency and stool consistency, it may worsen symptoms such as abdominal pain, bloating, and distension, especially in patients with constipation-predominant irritable bowel syndrome and in patients complaining of bloating and abdominal distension. Therefore, reducing fibre intake could improve constipation and its associated symptoms.

Bulking agents, either soluble or insoluble fibre, are often recommended as first-line treatment options for patients with chronic constipation. These agents bind water and prevent its absorption from the lumen by increasing colonic volumes and stool frequency. However, like dietary fibres, bulking agents may also produce side effects such as bloating, distension and flatulence. Hence, treatment with other first-line agents like osmotic laxatives containing polyethylene glycol should be considered in these patients.[2,6,15]

In patients with poor response to general measures, bulking agents and osmotic laxatives, the next step is to add or change treatment to a stimulant (e.g. bisacodyl, sodium picosulfate, sennosides), secretagogue (e.g. the guanylate cyclase C receptor agonist linaclotide and the chloride channel activator lubiprostone) or prokinetic laxative (e.g. serotonin (5-HT)-4 agonist prucalopride, acetylcholinesterase inhibitors)[2,4,6,10,15] . The mechanisms of action of these pharmacological agents are different but with similar efficacy on constipation. Secretagogues and prokinetics have a high level of evidence and strong recommendation in constipation guidelines. However, their use is limited because they are expensive and are not reimbursed by the health care system in most countries. Stimulant laxatives are cheaper and can be obtained over the counter in most countries, but they have frequent side effects like abdominal cramps and diarrhoea that limit their use. Overuse of stimulant laxatives is associated with a progressive loss of efficacy leading to a continuous increment in the effective dose and dependency of the laxatives to pass stool. Therefore, the European guidelines recommend that the first choice among these second-line pharmacological agents will depend on the patient's characteristics, like the coexistence of abdominal pain or distension, cost/efficacy evaluation, and local preferences.

In patients with opioid-induced chronic constipation, the treatment of choice is with PAMORA (Peripherally Acting μ-Opioid Receptor Antagonists: naloxegol, methylnaltrexone, alvimopan, naldemedine) that inhibit the peripheral effects of μ-opioid analgesics on bowel functions such as reduced GI motility and secretion, and increased fluid absorption. PAMORA do not pass the blood-brain barrier, ameliorating gastrointestinal function without affecting the central analgesic effects of opioids.[2] Also, this group of laxatives exerts prokinetic properties even in the absence of opioid therapy and may be effective in non-opioid-related constipation.

In case of constipation due to functional defecation disorders, biofeedback training is the treatment of choice regardless of the presence of abnormal bowel transit time.

Mistake 10 Not considering surgical intervention

Surgical treatment options, both resecting and non-resecting, can be considered in selected patients who have failed conservative treatments. Surgical interventions for chronic constipation are rare and should be carefully considered and always kept as a last resort. Before a surgical treatment is recommended, an in-depth evaluation by experienced physiologists and colorectal specialists should be performed.

Surgical treatment options for constipation include caecostomy for colonic irrigation, surgical treatment of rectal structural alterations proven by imaging such as a rectocele, high-grade intussusception, rectal prolapse and descending perineum syndrome, or colectomy for patients with refractory slow-transit constipation with anorectal evacuation and normal gastro-intestinal function. Continuous, direct nerve stimulation (SNS/SNM) has been advised to manage constipation, but the controlled trials published so far have failed to demonstrate the efficacy of this treatment in constipation.[2,3].

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Your constipation briefing

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- Evaluation of colonic motility and ano-rectal function: How and for whom?' session at UEG Week Virtual 2021 [https://ueg.eu/library/evaluation-of-colonic-motility-and-ano-rectal-function-how-and-for-whom/247987]
- 'Opioid-induced constipation and narcotic bowel' session at UEG Week Virtual 2021 [https://ueg.eu/library/opioid-induced-constipation-and-narcotic-bowel/248369]
- 'European society of neurogastroenterology and motility guidelines on functional constipation in adults' session at UEG Week Virtual 2021 [https://ueg.eu/library/european-society-of-neurogastroenterology-and-motility-guidelines-on-functional-constipation-in-adults/248025]
- 'Colonic volume determined by magnetic resonance imaging in patients with functional constipation and irritable bowel disease' session at UEG Week Virtual 2021 [https://ueg.eu/library/colonic-volume-determined-by-magnetic-resonance-imaging-in-patients-with-functional-constipation-and-irritable-bowel-disease/248445]
- 'Constipation' session at Postgraduate Teaching UEG Week 2018 [https://ueg.eu/library/constipation/182281]

Standards and Guidelines

- 'Fox, M.R., Kahrilas, P.J., Roman, S. et al. Clinical measurement of gastrointestinal motility and function: who, when and which test?. Nat Rev Gastroenterol Hepatol 15, 568–579 (2018). https://doi.org/10.1038/s41575-018-0030-9' [https://ueg.eu/library/clinical-measurement-of-gastrointestinal-motility-and-function-who-when-and-which-test/201709]
- 'NICE Quality Standard Irritable bowel syndrome in adults (QS114)' [https://ueg.eu/library/nice-quality-standard-irritable-bowel-syndrome-in-adults/141817]
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