Abstract The treatment of bowel dysfunction is a common medical challenge, due to the high prevalence and complexity of constipation among the populations of western countries. The aim of this chapter is to point out the main elements of the medical treatment of the bowel functional disorders that may afflict the pelvic floor. Irritable bowel syndrome (IBS) may feature constipation (IBS-C) or diarrhea (IBS-D) as predominant dysfunction, or even alternating symptoms (IBS-A). IBS can be treated with traditional therapies (antidiarrheals, dietary modifications, fiber supplementation, bulking agents, osmotic laxatives, tricyclic antidepressants, and antispasmodics). Currently, evaluation of new agents (agonists and antagonists of serotonin receptors, adrenergic modulators, chloride channel activators, probiotics, and others) is in progress. The treatment of slow transit constipation (STC) may feature therapy of the comorbidities that may result in constipation – dietary suggestions, lifestyle changes, correction of bowel habits, and laxatives, but new agents are also taken in consideration. Obstructed defecation (OD) can be treated by aiming to decrease the consistency of the stool and facilitate rectal evacuation. Many patients affected by OD and correctly treated with conservative therapies can obtain relief from their symptoms and avoid surgical treatment.

Keywords Bulking agents • Chloride channel activators • Irritable bowel syndrome • Laxatives • Lubiprostone • Medical treatment • Obstructed defecation • Probiotics • Serotonin receptors • Slow transit constipation

51.1 Introduction

The treatment of bowel dysfunction is a common medical challenge, due to the broad range of different forms of constipation and their high prevalence among the populations of western countries (from 2% to 27%, with a female predominance) [1]. The aim of this chapter is to point out the main elements of the extremely complex medical treatment of this range of functional disorders that may primarily or secondarily afflict the pelvic floor.

51.2 Medical Treatment of Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is a gastrointestinal disorder characterized by abdominal pain and discomfort in association with altered bowel habits. IBS can
feature constipation as the predominant dysfunction (IBS-C) or diarrhea (IBS-D), or even alternating symptoms of constipation and diarrhea (IBS-A) [2]. The pathophysiology of IBS is considered to be multifactorial, involving disturbances of the brain–gut axis: IBS has been associated with abnormal gastrointestinal motor functions, visceral hypersensitivity, psychosocial factors, autonomic dysfunction, and mucosal inflammation [3].

The general goal of treatment is to alleviate the symptoms of abdominal pain, altered bowel transit (diarrhea or constipation), and any associated symptoms such as bloating and fecal incontinence [2].

In all cases, it is of great importance to educate the patient about the nature of his syndrome and the origin of symptoms. The patient should be aware that his condition is a real medical disorder and that a single drug is not likely to eradicate all symptoms, but also has to know that IBS is a benign process associated with a normal life expectancy [4].

### 51.2.1 Traditional Therapies

The traditional IBS therapies are directed mainly at the relief of symptoms. They include antidiarrheals (diphenoxylate, loperamide, etc), dietary modifications, fiber supplementation, bulking agents, osmotic laxatives (magnesium salt, lactulose, polyethylene glycol, etc), tricyclic antidepressants (desipramine, amitriptyline, etc), and antispasmodics. These treatments are not always completely successful and have been subject of much discussion.

Loperamide is probably the most widely used drug for IBS-D, but although it decreases stool frequency and improves stool consistency, it does not affect abdominal pain in IBS-D, and should be considered only in painless diarrhea.

The use of bulking agents and fiber is also commonly considered for the treatment of IBS-D, but it remains a controversial issue due to methodological limitations in clinical trials. Bulking agents can result in abnormal bacterial fermentation and may cause bloating and abdominal pain, worsening the clinical outcome of IBS patients. The American College of Gastroenterology Functional Gastrointestinal Disorders Task Force (ACG-CCTF) currently recommends the use of fiber in constipation but not in IBS [5].

For some of these agents (antidepressants and antispasmodics), a poor study design and methodological flaws in clinical trials make it difficult to judge their real therapeutic value [3].

The development of knowledge on the pathophysiology of IBS is leading to the introduction of many new therapeutics approaches, although most need further large trials before reaching a proven efficacy [3].

### 51.2.2 New Agents – Serotonin Axis

Serotonin (5-hydroxytryptamine, 5-HT) is the most important neurotransmitter in the pathogenesis of IBS. While its exact role in this disorder is not yet fully understood, pharmacotherapy directed at modulating its activity has proved to be an effective way of treating many IBS symptoms [2]. Antagonists of the 5-HT3 receptor (alosetron, ramosetron) are effective in decreasing small bowel and colonic transit time, increasing stool firmness, and reducing intestinal secretion and visceral pain. These agents are indicated in the treatment of IBS-D [6, 7].

Piboserod, a 5-HT4 antagonist, tends to delay colonic transit time in patients affected by IBS-D, but further studies are needed to confirm these results [8].

Agonists of the 5-HT4 receptor (tegaserod, prucalopride) stimulate intestinal secretion of water and chloride, and decrease the nociceptive response to rectal distension. The use of these agents seems to be effective in women with IBS-C but does not result in improvement of bowel symptoms in men [9, 10].

Mixed 5-HT4 agonist/5-HT3 antagonists (renzapride and mosapride) have shown promise for patients with IBS-C and IBS-A, and further studies are under way [11, 12].

ATI-7505 is a potent agonist of the 5-HT4 receptor, and preliminary data seem to show good effectiveness in IBS-C [13].

### 51.2.3 New Agents – Adrenergic Modulators

Clonidine, an α2 agonist originally developed as antihypertensive agent, has been shown to increase colonic compliance, delay small bowel transit, and reduce colonic tone and sensitivity to distension. It may play a role in the treatment of IBS-D but few data are currently available [14].