

TREATMENT OF PATIENT WITH IRRITABLE BOWEL SYNDROME WITH DIET MODIFICATION – A CASE REPORT

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Abstract

Irritable Bowel Syndrome (IBS) is characterized by chronic relapsing abdominal pain, bloating and changes in bowel habits. Despite very real symptoms, the gross and microscopy evaluation is normal in most IBS patients

Due to difficulty in diagnosis, incidence is not clearly known. Prevalence in developed countries is between 5% and 10 percent. Throughout the world about 10-20 percent of adults and adolescents have symptoms consistent with IBS. IBS is a disorder that effect all ages although most patients have their first symptom before age 45. Older individuals have a lower reporting frequency. Women are diagnosed with IBS 2-3 times as often as men and makeup 80 percent of population with severe IBS.

IBS is a bio-psychosocial disorder in which 3 major mechanicals interact: psychosocial factors, altered motility and heightened sensory function of intestine. Due to multifactorial etiology there is no single therapeutic option available with satisfactory efficiency.

Therefore, patients with high frequency of symptoms express high levels of frustration with their frequent hospital visits, decreased work & social life and food sensitivity. If treatment is carried out to improve symptoms, some people can control their symptoms by managing diet, lifestyle and stress. Others need medication and counselling.

In our case the patient wasn't satisfied with the pharmacotherapy alone. He used diet modification and lifestyle modification as a main treatment strategy. Satisfactory results were observed with such changes.

Keywords: IBS, psychosocial, bio-psychosocial, lifestyle modification, diet modification, low FODMAP diet, high fiber diet, yoga, stress

Introduction

IBS is a chronic, functional and disabling gastrointestinal problem that affects the quality of life. Pathogenesis of IBS remains poorly defined. There is clear interplay between psychological stressors, diet, perturbation of gut microbiome, increased enteric sensory responses to gastrointestinal stimuli and abnormal GI motility. For example, patients with constipation predominant type (IBS-C) tend to have decreased colonic contractions and transient rates respectively. Other data link disturbances in enteric nervous system functioning to IBS suggesting a role for defective brain gut axis signaling. The cause of IBS is likely to be multifactorial. Patients often show evidence of visceral hyposensitivity and motility abnormalities. Many IBS patients have increased anxiety or depression and some symptoms are often exacerbated by mental or physical stress suggesting abnormal brain gut interaction. Genetic study suggests a few IBS patients may have genetic abnormalities affecting serotonin transport system in enteric nerves. Up to 30 percent of IBS patients may have bile acid malabsorption, gut dysbiosis and impaired mucosa permeability also has been reported in many IBS

patients. This may lead to subclinical mucosa inflammation.

We present a case of a 50 years old man with IBS constipation type who had used antibiotics and other medications for a long period of time. But he did not find any improvement in symptoms. He eventually stopped his medications out of dissatisfaction and started lifestyle & diet modification by himself. This eventually led to improvement in symptoms of IBS and his quality of life has improved.

Case report

A 50 years old married male person working as a government teacher presented to a multispecialty hospital with complaints of frequent abdominal pain, bloating of abdomen, constipation, altered sleep & bowel habits and loss of appetite since 5 years. The pain exists for long period of time. There is feeling of heaviness in stomach and indigestion after eating. The pain gets subsided soon after defecation. Sometimes there is oliguria with burning micturition. Vomiting of normal food contents after food intake is observed once in 4 months. He had constipation with pain during defecation alternating with diarrhea once

a month with blood and mucus. Patient had significant loss of weight (68 to 58kg) in a period of 1 year. Past history of amebiasis and per rectal bleeding. He suffered with symptoms consistent with amebiasis like vomiting, stools with blood and mucus frequently for 10 years until 2013. He had undergone sphincterotomy- for internal hemorrhoids about 15 years back. He had undergone endoscopy (2011), sigmoidoscopy (hemorrhoids discovered in 2003), colored Doppler scan of abdomen and blood hematology, renal function test, liver function test, urine examination, blood microbiology and it showed no abnormalities.

The treating physician prescribed few drugs for constipation. They are Rantac (Ranitidine), Normaxin RT (Chlordiazepoxide, Clidinium, Dicyclomine and Rabeprazole), Cap. Cyraflora (a probiotic drug), Talo CZ (Clonazepam and Escitalopram), Zanolin (Ofloxacin). The patient used these drugs for a period of 6 months. He went for a review after 6 months. This time the physician prescribed Satrogyl O (Satranidazole and ofloxacin), Suspension Diovol LA (Oxetacaine, Aluminum hydroxide, Dimethicone and Magnesium Oxetacaine), Cap Cyraflora, Tab. Beplex forte (Vitamin-B complex and vitamin-C), Tab. Enzase (Pancreatic enzyme supplement), Cap. Razol DSR (Rabeprazole and domperidone).

Patient used the medication for few months, but symptoms persisted. Being not satisfied with the treatment, he stopped medicine intake. In order to control altered bowel habits patient has started eating less, and avoided several items like non vegetarian foods, spicy food, fried foods. He also avoided eating out. He started taking highly hydrated and fiber containing foods like banana, pineapple, oranges, wheat bran and unpolished rice. We observed that the foods he is taking now are actually low FODMAP containing and highly soluble. He stopped taking food in dinner except for fruits. He was slowly feeling better with defecation and abdominal pain. His bowel habits improved gradually. He used to drink 2 liters water daily early in the morning and increased his overall water consumption every day. He started practising yoga & meditation for 1 hour daily along with morning walk. Yoga & meditation helped him in reducing the psychological stress and improving his physical fitness. Sometimes he had episodes of constipation due to intake of other foods and stressful conditions psychologically. But his symptoms improved compared to earlier after the change in diet & lifestyle habits.

Discussion

IBS is a debilitating condition that can affect the psychological and social functioning. Medical management of this condition is often unsatisfactory. However, diet modification and lifestyle changes along with medication is found to be more effective than medication alone in IBS.

Because IBS is a disorder for which no pathognomonic abnormalities have been identified, its diagnosis relies on recognition of positive clinical features, eliminating other organic diseases. Symptom based criteria have been developed for purpose of differentiating patients with IBS from those with organic diseases. This includes the Manning, Rome 1, Rome 2, Rome3 and Rome 4 criteria and defined IBS based on abdominal pain and altered bowel habits that occur with enough frequency in affected patients.

Table 1: Rome IV Diagnostic Criteria for Irritable Bowel Syndrome

Recurrent abdominal pain, on average, at least 1 day per week in last 3 months, associated with 2 or 3 of the following criteria:	
1	Related to defecation
2	Associated with a change in frequency of stool
3	Associated with a change in form of stool

*Criteria fulfilled for the last 3 months with symptom onset at least 6 months

Patient has taken antibiotics for some period but had no improvement in symptoms. So, he started prebiotics, dietary and lifestyle modification.

Prebiotics are non-digestive food ingredients that stimulates growth and activity of bacteria. 3 of 4 studies reported that prebiotics worsened or didn't improve IBS symptoms.

Probiotics are defined as live microorganisms administered in adequate amount that confer health benefits on host. IBS patients found significant relief of pain and bloating with use of probiotics. However, there was no change in stool frequency or consistence.

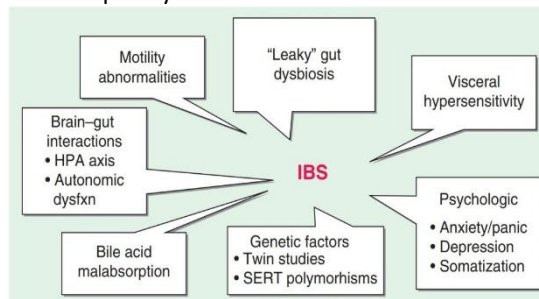


Figure 1: Pathophysiology of IBS (Source: Harrison's Principles of Internal Medicine, 20th Edition)

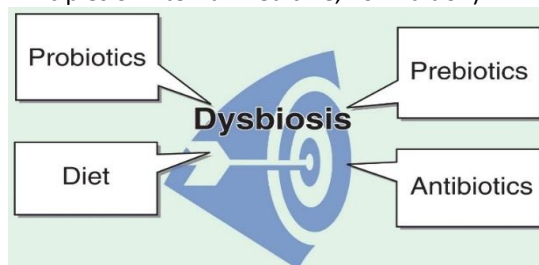


Figure 2: Gut dysbiosis: a potential treatment target (Source: Harrison's Principles of Internal Medicine, 20th Edition)

Table 2: Some common food sources of FODMAPs

FOOD TYPE	FREE FRUCTOSE	LACTOSE	FRUCTANS	GALACTO-OLIGOSACCHARIDES	POLYOLS
Fruits	Apple, cherry, mango, pear, watermelon		Peach, persimmon, watermelon		Apple, apricot, pear, avocado, blackberries, cherry, nectarine, plum, prune
Vegetables	Asparagus, artichokes, sugar snap peas		Artichokes, beetroot, Brussels sprout, chicory, fennel, garlic, leek, onion, peas		Cauliflower, mushroom, snow peas
Grains and cereals			Wheat, rye, barley		
Nuts and seeds			Pistachios		
Milk and milk products		Milk, yogurt, ice cream, custard, soft cheeses			
Legumes			Legumes, lentils, chickpeas	Legumes, chickpeas, lentils	
Other	Honey, high-fructose corn syrup		Chicory drinks		
Food additives			Inulin, FOS		Sorbitol, mannitol, maltitol, xylitol, isomalt

Source: Adapted from PR Gibson et al: Am J Gastroenterology 107:657, 2012

Low FODMAP Diet (Fermentable oligosaccharides disaccharides monosaccharides and polyols): This often triggers symptoms in IBS patients. FODMAP are poorly absorbed by small intestine and fermented by bacteria in colon to produce gas and osmotically active carbohydrates. FODMAP may serve as nutrients for colonic bacteria and promote growth of gram-negative commensal bacteria which may induce epithelial damage and subclinical mucosa inflammation. In contrast a low FODMAP diet reduce IBS symptoms

A randomized controlled trial showed a 4-week low FODMAP diet improve symptoms in 68 percent of IBS patients compared with 23 on habitual diet. A low FODMAP diet appears to be superior to national guidelines for managing IBS. A FODMAP diet significantly reduces bloating, pain, passage of gas and diarrhea.

Food intolerances or allergies are strong contributors to the exacerbation of IBS symptoms. Individuals with IBS often discover that certain foods aggravate symptoms. Elimination diets are often employed that remove the most common allergens from the diet.

Fiber intake from fruits and vegetables is inversely correlated to bloating. Overall, consumption of soluble fiber resulted in a decrease in global IBS symptoms and constipation. Due to its moderate effectiveness, additional intake of soluble fiber may be recommended for IBS-C patients.

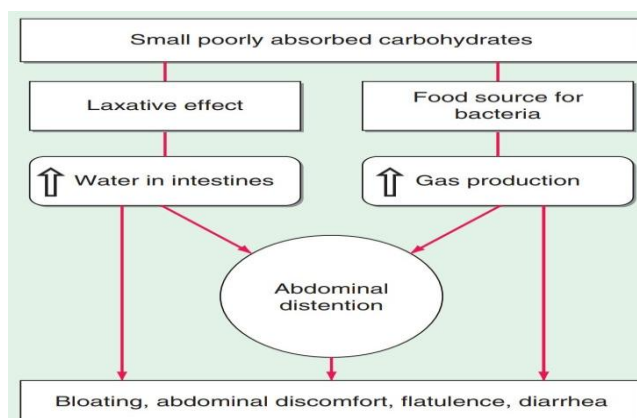


Figure 3: Pathogenesis of FODMAP-related Symptoms (Source: Harrison's Principles of Internal Medicine, 20th Edition)

Along diet modification, including yoga in daily life which reduces the psychological stress and improves physical health is observed to improve the symptoms. Exercise can help maintain GI function and reduce stress, which can help relieve some IBS symptoms. Studies of IBS indicate positive relationships between physical activity and symptom relief. Physical activity, such as pedaling a bicycle, protects against GI symptom aggravation and alleviates gas in several studies. The practice of yoga has also demonstrated reduction of IBS symptoms in both adult and adolescent populations. Pranayama yoga has been identified as an exercise regimen that increases sympathetic tone, which is decreased in IBS patients. All the above observations, we prefer that apart from antibiotics, diet modification and life style changes play an important role in patients with moderate to severe symptoms.

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