ADVANCES IN IBS

Current Developments in the Treatment of Irritable Bowel Syndrome

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Food Allergy Vs Food Intolerance in Patients With Irritable Bowel Syndrome

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G&H What is the relationship between food and irritable bowel syndrome?

SC Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal disorder characterized by abdominal pain or discomfort and alterations in bowel habits. The pathophysiology of the disease remains unknown, but various factors are thought to play a role, including visceral hypersensitivity, gut dysmotility, mucosal inflammation, and changes in the makeup of the intestinal microbiota. Limited data are available on the relationship between food and IBS, but it appears that an adverse reaction to a particular food (or foods) may be associated with symptom onset or exacerbation. A study on IBS patients in England used food-specific immunoglobulin (Ig) G testing with borderline positive tests. Although protein reactions are rare in IBS, intolerance to poorly absorbed carbohydrates, such as fructose, lactose, sorbitol, and other fermentable sugars and starches, is related to worsening symptoms in patients with IBS.

G&H What is the difference between a food allergy and a food intolerance?

SC Adverse reactions to food can be categorized as either a food allergy or a food intolerance. Due to similarities in symptoms and in symptom improvement following food elimination, food intolerance is often confused for food allergy. However, the difference between a food allergy and a food intolerance is its immune basis. Specifically, a food allergy is characterized by an activation of IgE-mediated antibodies to a food protein following ingestion of a given food. For example, an individual who is allergic to peanuts may develop a reaction that affects mast cells in the tissues and basophils in the blood. Celiac disease is a T cell–mediated immune response without IgE-mediated reactions. T-cell immune responses are associated with a more delayed reaction, meaning that symptoms develop over hours or days after ingestion as opposed to immediately following consumption. An association between food allergy and IBS pathogenesis has not been supported in the literature.

A food intolerance is a nonimmune-mediated adverse reaction to food that can be caused by any (nonprotein) food component, and is much more common than food allergy. Some individuals have intolerance to lactose and may have decreased levels or an absence of lactase, whereas others may exhibit sensitivity to triacylglycerol, or the fat that is present in milk. In contrast, an individual who is allergic to cow milk protein (more common in infants and young children) will have an immune reaction after ingesting food containing cow milk.

G&H How prevalent is food allergy or food intolerance among patients with IBS?

SC The prevalence of food allergy among patients with IBS tends to overlap with that among the general US

population, which is 1% to 4% in adults and approximately 6% in children, although these percentages are rising. Most food allergies are seen in early childhood; however, approximately 15% of food allergies are diagnosed in adults. Celiac disease affects approximately 1% of the population in developed and developing nations where wheat ingestion is common. Research has suggested that patients with IBS are 4 times more likely to have celiac disease than those in the general population, although the accuracy of the diagnostic tests for celiac disease has been questioned. Between 20% and 25% of the world population reports having a food intolerance. However, the wide range of associated symptoms makes it challenging to diagnose food intolerance.

G&H How are food allergies or food intolerances diagnosed?

SC A detailed medical history should be taken in patients who are suspected of having a food allergy. Asking about the patient's dietary intake, symptoms, and family history can sometimes be enough to make a diagnosis of food allergy. Patients may be referred to a board-certified allergist who can perform a radioallergosorbent test, which detects the presence of specific IgE antibodies in the blood, to confirm the diagnosis. Skin prick testing and oral food challenges can also be included in the diagnostic workup if needed. Tests that can detect levels of IgG, IgG4, and IgA, as well as cytotoxicity tests, are not recommended by the National Institutes of Health, as they lack scientific evidence and standardization. Patients who are thought to have lactose or sucrose intolerance can take a hydrogen breath test, but, otherwise, no reliable test is available to diagnose food intolerances. Sensitivities to food are largely patient-reported following symptom improvement from food elimination challenges.

G&H How do patients with a food allergy or food intolerance typically present?

SC Patients with a food allergy or food intolerance often report worsened IBS symptoms after eating certain foods. The most common complaints are of abdominal pain, bloating, cramping, diarrhea, dyspepsia, and nausea. Patients with intolerance to lactose and fermentable carbohydrates typically experience symptoms similar to those of IBS, with the addition of distension and flatulence. Patients with a food allergy may experience immediate reactions of itching, hives, or asthma.

G&H Which foods are most likely to cause an adverse reaction?

SC Milk, wheat, soy, egg, peanuts/tree nuts, fish/shellfish, and corn account for 90% of all IgE-mediated food allergies. Geography and diet play a role in allergies as well; peanut allergy is common in the United States, whereas sesame allergy is a growing concern in the Middle East. Foods high in sucrose or fructose, such as cookies, cakes, soft drinks, breads, crackers, bananas, and breakfast cereals (ie, fermentable carbohydrates), tend to trigger symptoms related to food intolerance, as these foods ferment in the microbiome.

G&H How can IBS patients with a food allergy or a food intolerance manage their symptoms?

SC Food elimination through various diets can help patients identify and remove food allergies or sensitivities. There has been an increase in a food allergy disorder, eosinophilic esophagitis, which causes heartburn, dysphagia, and food obstruction in children and adults. The 4-food or 6-food elimination diet seeks to remove milk, wheat, soy, egg, peanuts/tree nuts, and fish/shellfish from patients' diets, as these foods are the most common triggers. After 4 to 6 weeks, the foods are reintroduced to an altered immune system and microbiome. If the patient does not experience an adverse reaction, the food remains in the diet. Other elimination diets include the Paleolithic diet and the low–fermentable oligosaccharide, disaccharide, monosaccharide, and polyol (FODMAP) diet. Patients who reduce their FODMAP intake have noted improvement in abdominal pain, bloating, and flatulence. Some studies have reported that a gluten-free diet reduces diarrhea as well as abdominal pain and bloating. Importantly, these elimination diets are intended for short-term management and are not permanent solutions. Patients can also manage their symptoms with medications such as proton pump inhibitors and topical corticosteroids.

G&H How effective are dietary approaches for the management of IBS symptoms?

SC Alterations in diet can be very beneficial for patients with IBS. Randomized, blinded studies have shown that the low-FODMAP diet effectively reduced gastrointestinal symptoms in patients with IBS, including lessening the severity of abdominal pain, bloating, and flatulence. However, dietary approaches are not recommended for long-term use, and the lasting effects of these diets on the gut microbiota are unknown. Patients should work with a qualified dietitian, as elimination diets can be restrictive, complex, and costly. Diets are not recommended in patients without confirmed food allergy, as patients may risk unnecessary deficiencies.

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G&H What are the priorities of research in this field?

SC There is still a lot that is unknown about the relationship between food, diet, and IBS. Current and ongoing research has focused on certain foods and their effects on the microbiome. Studies are needed to elucidate whether individuals have different colonizing bugs and to further investigate precision medicine. It would be helpful to utilize precision medicine to understand which kind of bugs are in the gut and which foods patients should eat or avoid for better health and for reduced symptoms.

Dr Crowe has no relevant conflicts of interest to disclose.

Suggested Reading

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