

VIEWS & REVIEWS

PERSONAL VIEW

Where's the evidence for gluten sensitivity?

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Recently I have noticed a huge increase in the use of the term gluten sensitivity, which is alleged to cause non-specific and usually mild gastrointestinal symptoms. Abdominal pain and discomfort, dyspepsia, bloating, and meteorism are symptoms commonly attributed to functional disorders of the gastrointestinal tract (irritable bowel syndrome, or IBS). Dietary change is well known to provide benefits in irritable bowel syndrome,¹ and the condition sometimes responds well to a gluten-free diet. This is despite the absence of the histology and serology typical of coeliac disease—duodenal villous atrophy, intraepithelial lymphocytosis, crypt hyperplasia, and the presence of anti-transglutaminase type 2 IgA antibodies in sera. Genetically, coeliac disease and gluten sensitivity partially share the same susceptibility, although the HLA-DQ2/DQ8 haplotype is not necessary to develop gluten sensitivity.²

Gluten sensitivity implies gastrointestinal or extraintestinal symptoms that respond to withdrawal from gluten but with no autoimmune mechanism typical of coeliac disease or other autoimmune disorders. The consensus, based on published papers, is that a diagnosis of gluten sensitivity is possible only after exclusion of coeliac disease and other food allergies or food related disorders and the symptomatic response to change in diet.³

There are no objective findings or markers to support a diagnosis of gluten sensitivity, and its pathogenesis remains obscure. The mechanism is theorised to be based on the stimulation of the innate immune system without an increase in interleukin 17. This is thought to be caused by gliadin; other proteic fractions of wheat; or a direct cytotoxic effect on enterocytes inducing apoptosis, imbalance of the cellular oxidative state, and modification of the cytoskeleton.^{4 5}

The new term gluten sensitivity has rapidly diffused into scientific literature and the mass media, leading to many patients inquiring about it. The last resort in perceived gluten sensitivity should be a gluten-free diet. A gluten-free diet is begun not to reduce the autoimmune reaction towards transglutaminase type 2 and prevent eventual complications, as in coeliac disease, but to resolve symptoms to try to improve patients' quality of life. However, a gluten-free diet itself reduces quality of life, and we do not know about possible complications or how strictly or for how long the diet should be adhered to.

Some aspects of gluten sensitivity need to be clarified before "treating" people for this new "disease." Financial interests might account for the estimated prevalence of 4-7%.³ A recent article from the United States reports that marketers estimate that 15-25% of healthy consumers (approximately 46 to 77 million people) want gluten-free products because they consider a gluten-free diet healthy.⁶

Estimating monthly consumption in Western countries of 1000 grams of gluten-free pasta per person, with an average cost of \$11, values the market at approximately \$500m-850m (£309m-526m; €386m-656m) a month. Also, research into drug treatments for coeliac disease that may enable people to reintroduce gluten in their diet may be worrying for the manufacturers of gluten-free foods.⁷ In fact, the gluten-free food industry now advertises with the intent to expand its customer base beyond patients with coeliac disease.

Gluten sensitivity needs investigation before gluten-free foods are promoted as a remedy on a large scale. Is gluten sensitivity different from irritable bowel syndrome or simply a variant that benefits from a common therapeutic approach? If gluten sensitivity exists, what is its mechanism?

Before generating new terms and diseases it is important to investigate their characteristics and specific markers to avoid misdiagnosis and inappropriate treatment. Patients often relate the start of their symptoms to the ingestion of foods—be it gluten, peppers, or beans—and we ought to be wary of labelling all of these perceived reactions as food sensitivities that must be treated.

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