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## Gluten related diseases

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Gluten, the largest complex protein component of a cereal grain, contains high levels of gliadin and glutenin known as prolamines. Similarly, a high concentration of prolamines was found in barley and rye, so the term 'gluten' has become synonymous with the protein content in all three cereals. Researchers have identified gluten to be the main etiologic and causative agent of coeliac disease (CD) in genetically predisposed individuals and a strict gluten-free diet is an essential part of treatment. Not so long ago, the possible role of gluten as the causative agent of other illnesses and not just coeliac disease (CD) spurred the considerable attention of both the medical and general public. Another well-known condition that requires the elimination of wheat proteins is the wheat allergy (WA). At the same time, many people who do not suffer from either CD or WA, exhibit a variety of symptoms that disappear while on a gluten-free diet (GFD). The term non-coeliac gluten sensitivity (NCGS) was used to describe this status which, together with CD and WA, makes a spectrum of gluten-mediated disorders. What non-coeliac gluten sensitivity actually implies is the subject of discussion and the prevalence of such conditions is still unknown. In some patients, the symptoms decrease while adhering to GFD because they have eliminated gluten, while in others, their recovery results from the avoidance of non-protein cereal components, such as sugars belonging to FODMAPs. The confusion about the benefits of GFD resulted in its widespread adoption as the most popular dietary regimen in the USA today, followed by the multibillion-dollar gluten-free food industry (GF). Although the exclusion of gluten from the diet is essential in patients with confirmed CD and BA, the fact is that they make up only a small percentage of those following a GFD, mostly for personal but not medical reasons. Strict adherence to GFD is difficult and costly and involves the risk of nutritional deficiency and weight gain (81%) due to the hyper caloric content of commercial gluten-free foods. GF products are not enriched and may be deficient in fibers, thiamine, folate, vitamin A, magnesium, calcium, and iron. In addition, there is no evidence of a need to eliminate other sources of gluten (rye, barley) in case of non-coeliac gluten sensitivity.

### Recent Publications:

1. Francavilla R et al (2017) Randomized Double-Blind Placebo-Controlled Crossover Trial for the Diagnosis of Non-Celiac Gluten Sensitivity in Children Am J Gastroenterol advance online publication, 30 January 2018; doi:10.1038/ajg.483
2. Reig-Otero Y et al(2017) Amylase-Trypsin Inhibitors in Wheat and Other Cereals as Potential Activators of the Effects of Nonceliac Gluten Sensitivity. J Med Food 00 (0), 1-8.
3. Leonard M.M et al (2015). Celiac Disease and Nonceliac Gluten Sensitivity A Review JAMA 2017; 318(7):647-56.
4. Fasano A et al. Nonceliac gluten and wheat sensitivity. Gastroenterology; 148:1195-1204
5. Nwaru I.B et al(2014) Prevalence of common food allergies in Europe: a systematic review and meta-analysis of the EAACI Food Allergy and Anaphylaxis Guidelines Group. Health Allergy; 69:992-1007.

### Biography

Biljana Vuletic is Associate Professor of Pediatrics at the Faculty of Medical Sciences University of Kragujevac and Chief of the Department of Gastroenterology of Pediatric clinic and a full ESPGHAN member. She received her medical degree from the Medical Faculty University of Belgrade. She started her residency in pediatrics at the University Children's Hospital University of Belgrade. There she also trained in Pediatric endoscopy and ultrasonography. She was finished two hands-on Courses in UK, Sheffield Children's Hospital She has been accepted by OMI foundation, Austria, for Observer ship program at the Medical University of Graz, Universities Kinderklinik LKH Graz two times. Her mainly clinical interests include chronic intestinal failure, coeliac disease and clinical nutrition. She has summary 168 publications including authored or co-authored papers in peer-reviewed journals and also chapters in the national Monographs and Textbooks published in Serbia.

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