



February 2021 Alert

Items 1-151

1. [The overlap between irritable bowel syndrome and organic gastrointestinal diseases](#)

Lancet Gastroenterol Hepatol. 2021 Feb;6(2):139-148. doi: 10.1016/S2468-1253(20)30212-0. Epub 2020 Nov 13.

Authors

[Imran Aziz](#) ¹, [Magnus Simrén](#) ²

Affiliations

- ¹ Academic Unit of Gastroenterology & Department of Infection, Immunity and Cardiovascular Sciences, University of Sheffield, Sheffield, UK. Electronic address: imran.aziz1@nhs.net.
- ² Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; Center for Functional Gastrointestinal and Motility Disorders, University of North Carolina, Chapel Hill, NC, USA.
- PMID: [33189181](#)
- DOI: [10.1016/S2468-1253\(20\)30212-0](#)

Abstract

Irritable bowel syndrome (IBS) is a common functional bowel disorder characterised by symptoms of recurrent abdominal pain associated with a

change in bowel habit. This condition is one of the most frequent reasons to seek a gastroenterology consultation in primary and secondary care. The diagnosis of IBS is made by identifying characteristic symptoms, as defined by the Rome criteria, and excluding organic gastrointestinal diseases that might otherwise explain these symptoms. Organic conditions that can be mistaken for IBS include coeliac disease, inflammatory bowel disease (IBD), colorectal cancer, and, in those with diarrhoea-predominant symptoms, chronic gastrointestinal infections, microscopic colitis, and primary bile acid diarrhoea. The concept of small intestinal bacterial overgrowth being associated with IBS is shrouded with controversy and uncertainty, mainly because of invalid tests due to poor sensitivity and specificity, potentially leading to incorrect assumptions. There is insufficient evidence to link IBS-type symptoms with exocrine pancreatic insufficiency or with symptomatic uncomplicated diverticular disease, since both are hampered by conflicting data. Finally, there is growing appreciation that IBS can present in patients with known but stable organic gastrointestinal diseases, such as quiescent IBD or coeliac disease. Recognising functional gut symptoms in these individuals is paramount so that potentially harmful escalations in immunosuppressive therapy can be avoided and attention can be focused on addressing disorders of gut-brain interaction. This Review endeavours to aid clinicians who practise adult gastroenterology in recognising the potential overlap between IBS and organic gastrointestinal diseases and highlights areas in need of further research and clarity.

Copyright © 2021 Elsevier Ltd. All rights reserved.

Full text links



2. [Gluten and skin disease beyond dermatitis herpetiformis: a review](#)

Int J Dermatol. 2021 Mar;60(3):281-288. doi: 10.1111/ijd.15098. Epub 2020 Aug 18.

Authors

[Suraj Muddasani](#)¹, [Amanda M Rusk](#)², [Katherine L Baquerizo Nole](#)²

Affiliations

- ¹ College of Medicine, University of Cincinnati, Cincinnati, OH, USA.
- ² Department of Dermatology, University of Cincinnati, Cincinnati, OH, USA.
- PMID: [32810304](#)
- DOI: [10.1111/jjd.15098](#)

Abstract

Gluten, a protein found in wheat, rye, and barley, is known to cause an immune reaction in patients with celiac disease (CD) resulting in small bowel villous atrophy and impaired nutrient absorption and cutaneous manifestations in patients with dermatitis herpetiformis (DH). It is common that patients associate skin conditions with their diet, and the advantages of a gluten-free diet (GFD) are brought up frequently. Indeed, there is evidence that certain dermatologic conditions can respond to a GFD, especially for those with concomitant CD and DH. In the last decade, new data have become available on the significance of gluten in skin disease. Herein, we review the role of gluten and a GFD on various cutaneous diseases beyond DH.

© 2020 the International Society of Dermatology.

- [50 references](#)

Full text links



3. [Barley](#)

Review

In: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006—. 2021 Feb 15.

- PMID: [30000887](#)
- Bookshelf ID: [NBK501827](#)

Free Books & Documents

Excerpt

Barley (*Hordeum vulgare*) contains starch, dietary fiber such as beta-glucan, and the enzyme diastase. Barley is a purported galactagogue and is used by mothers in many cultures to increase their milk supply.[1-5] Some animal evidence indicates that a polysaccharide in barley can increase serum prolactin.[5-7] Galactagogues should never replace evaluation and counseling on modifiable factors that affect milk production.[8,9] No data exist on the excretion of any components of barley into breastmilk or on the safety and efficacy of barley in nursing mothers or infants. Barley is safe to be consumed during breastfeeding, except by persons with celiac disease. Allergy to barley occurs rarely.

Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

- [9 references](#)

Full text links



[Drugs and Lactation Database \(LactMed\) \[Internet\]](#)

4. Interactions between gluten and water-unextractable arabinoxylan during the thermal treatment

Food Chem. 2021 May 30;345:128785. doi: 10.1016/j.foodchem.2020.128785.
Epub 2020 Dec 3.

Authors

[Xiaojing Si](#)¹, [Tingting Li](#)², [Yu Zhang](#)³, [Wenhui Zhang](#)⁴, [Haifeng Qian](#)¹, [Yan Li](#)¹, [Hui Zhang](#)¹, [Xiguang Qi](#)¹, [Li Wang](#)⁵

Affiliations

- ¹ State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, Wuxi 214122, China.
- ² Department of Food Science and Engineering, College of Light Industry and Food Engineering, Nanjing Forestry University, Nanjing 210037, China.
- ³ Dalian Customs Comprehensive Technical Service Center, 75 Renmin Road, Zhongshan District, Dalian 116001, China.
- ⁴ Institute of Food Science, Tibet Academy of Agricultural and Animal Husbandry Sciences, Lasa 850000, China.
- ⁵ State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, Wuxi 214122, China.
Electronic address: wl0519@163.com.
- PMID: [33310257](#)
- DOI: [10.1016/j.foodchem.2020.128785](https://doi.org/10.1016/j.foodchem.2020.128785)

Abstract

This study aimed to investigate the interactions between gluten and water-unextractable arabinoxylan (WUAX), which changed the conformation and aggregation of gluten during the thermal treatment. In this work, the interactions between water-unextractable arabinoxylan and wheat gluten during thermal treatment were extensively evaluated by different techniques. The results showed that the extra WUAX could impair the viscoelasticity as

well as weaken the thermal properties of gluten. The fluorescence spectra revealed the extra WUAX changed the conformation of gluten molecules. Besides, chemical interaction measurement indicated that the extra WUAX prevented the formation of partial disulfide bonds and had a major effect on the hydrophobic interaction of gluten. In summary, these results indicated that WUAX disrupted the covalent crosslinking by affecting disulfide bonds between gluten proteins, and dominated the folding/unfolding process of gluten via the competition with gluten for water, resulting in the poor quality of whole wheat-based foods.

Keywords: Aggregation behavior; Chemical interactions; Gluten; Thermal process; Water-unextractable arabinoxylan.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



5. [Thromboembolic complications and cardiovascular events associated with celiac disease](#)

Ir J Med Sci. 2021 Feb;190(1):133-141. doi: 10.1007/s11845-020-02315-2.
Epub 2020 Jul 20.

Authors

[Fotios S Fousekis](#)¹, [Eleni T Beka](#)¹, [Ioannis V Mitselos](#)¹, [Haralampos Milionis](#)², [Dimitrios K Christodoulou](#)³

Affiliations

- ¹ Department of Gastroenterology and Hepatology, School of Health Sciences, Faculty of Medicine, University Hospital of Ioannina, University of Ioannina, POBox 1186, 45110, Ioannina, Greece.

- ² 1st Department of Internal Medicine, School of Health Sciences, Faculty of Medicine, University Hospital of Ioannina, University of Ioannina, Ioannina, Greece.
- ³ Department of Gastroenterology and Hepatology, School of Health Sciences, Faculty of Medicine, University Hospital of Ioannina, University of Ioannina, POBox 1186, 45110, Ioannina, Greece.
dchristodoulou@gmail.com.
- PMID: [32691305](#)
- DOI: [10.1007/s11845-020-02315-2](#)

Abstract

Celiac disease (CD) is a chronic intestinal immune-mediated disease occurring in genetically susceptible individuals who are exposed to gluten. Although it primarily affects the small intestine, CD has been associated with a wide spectrum of extraintestinal manifestations, including thromboembolism and cardiovascular events. The risk of ischemic stroke, myocardial infarction, and thromboembolism, such as deep vein thrombosis and pulmonary embolism, is higher in patients with CD, while there is accumulating evidence that gluten-free diet in CD patients decreases the risk of these complications. The pathogenetic mechanism of increasing hypercoagulability in CD is multifactorial and involves hyperhomocysteinemia due to malabsorption of vitamins B12, B6, and folic acid; endothelial dysfunction; acceleration of atherosclerosis; chronic inflammation; thrombocytosis; and thrombophilia. Therefore, in cases of thromboembolic complications and cardiovascular disease of obscure etiology, clinicians' awareness of possible celiac disease is warranted.

Keywords: Atherosclerosis; Celiac disease; Extra-intestinal manifestations; Hypercoagulability; Thromboembolism.

- [Cited by 1 article](#)
- [115 references](#)

Full text links



6. Chemical modifications and their effects on gluten protein: An extensive review

Food Chem. 2021 May 1;343:128398. doi: 10.1016/j.foodchem.2020.128398.
Epub 2020 Oct 16.

Authors

[E Abedi](#)¹, [K Pourmohammadi](#)²

Affiliations

- ¹ Department of Food Science and Technology, College of Agriculture, Fasa University, Fasa, Iran. Electronic address: e.abedi@fasau.ac.ir.
- ² Department of Food Science and Technology, College of Agriculture, Fasa University, Fasa, Iran. Electronic address: Kpourmohammadi@fasau.ac.ir.
- PMID: [33268180](#)
- DOI: [10.1016/j.foodchem.2020.128398](https://doi.org/10.1016/j.foodchem.2020.128398)

Abstract

Gluten protein as one of the plant resources is susceptible to genetic, physical, chemical, enzymatic and engineering modifications. Chemical modifications have myriad advantages over other treatments, including short reaction times, low cost, no requirement for specialized equipment, and highly clear modification effects. Therefore, chemical modification of gluten can be mainly conducted via acylation, glycosylation, phosphorylation, and deamidation. The present review investigated the impact of different chemical compounds on conformations of gluten and its subunits. Moreover, their effects on the physico-chemical, morphological, and rheological properties of gluten and their subunits were studied. This allows for the use of gluten for a variety of purposes in the food and non-food industry.

Keywords: Chemical modifications; Conformation; Gluten; Physico-chemical properties.

Full text links



7. [**Mucosal penetration and clearance of gluten and milk antigens in eosinophilic oesophagitis**](#)

Aliment Pharmacol Ther. 2021 Feb;53(3):410-417. doi: 10.1111/apt.16180.
Epub 2020 Dec 2.

Authors

[Anupama Ravi](#)¹, [Eric V Marietta](#)², [Jeffrey A Alexander](#)², [Kathryn Peterson](#)³, [Crystal Lavey](#)²,
[Debra M Geno](#)², [Joseph A Murray](#)², [David A Katzka](#)²

Affiliations

- ¹ Division of Pediatric Allergy, Department of Pediatrics, Mayo Clinic, Rochester, MN, USA.
- ² Division of Gastroenterology and Hepatology, Department of Medicine, Mayo Clinic, Rochester, MN, USA.
- ³ Division of Gastroenterology and Hepatology, University of Utah, Salt Lake City, UT, USA.
- PMID: [33264440](#)
- DOI: [10.1111/apt.16180](#)

[Abstract](#)

Background: The Th2 allergic pathway in eosinophilic oesophagitis (EoE) responds to food antigen exposure.

Aim: To compare the presence and temporal pattern of food antigen penetration in oesophageal mucosa in active and inactive EoE and controls
METHODS: Thirty-two patients with EoE (20 active) and 10 controls were asked to eliminate all wheat and/or dairy 12, 24, 48, 72 or 96 hours before

endoscopy. Immunostaining on endoscopic biopsies was performed for gliadin, casein and whey.

Results: Gluten, casein and whey were detected by positive staining in 17/32 (53.1%), 21/32 (65.6%), and 30/32 (92.0%) of patients, respectively. In active vs inactive EoE, 70.0% vs 25.0% ($P < 0.05$), 80.0% vs 41.5%, and 90.0% vs 90.9% patients had detectable gliadin, casein and whey, respectively. Casein and whey (20.0% and 100%, respectively) but not gliadin, were present in controls. The gliadin staining density was greater in active compared to inactive disease at ≤ 24 vs >24 hours after exposure ($P = 0.05$) but no differences were detected when comparing active and inactive patients for casein and whey. There was greater staining density for whey than casein for all patients at ≤ 24 hours (mean 2.14 ± 0.91 and 1.07 ± 1.33 , $P = 0.02$). In active EoE, IgG4 was present in 14/20 compared to one inactive patient.

Conclusion: The oesophageal epithelium is selectively permeable and has relatively long dwell times for food antigens known to trigger EoE. The precise mechanism of antigen-specific mucosal entry and the factors that determine the induction or effector trigger of the Th2 pathway activation merit further study.

© 2020 John Wiley & Sons Ltd.

- [24 references](#)

8. [Phenome-wide association study in adult coeliac disease: role of HLA subtype](#)

Aliment Pharmacol Ther. 2021 Feb;53(4):510-518. doi: 10.1111/apt.16206.
Epub 2020 Dec 5.

Authors

[Carolyn V Schneider](#)^{1 2}, [Moritz Kleinjans](#)², [Malin Fromme](#)², [Kai Markus Schneider](#)^{2 3}, [Pavel Strnad](#)²

Affiliations

- ¹ The Institute for Translational Medicine and Therapeutics, The Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.
- ² Medical Clinic III, Gastroenterology, Metabolic Diseases and Intensive Care, University Hospital RWTH Aachen, Aachen, Germany.
- ³ Department of Microbiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.
- PMID: [33280147](#)
- DOI: [10.1111/apt.16206](#)

Abstract

Background: Coeliac disease arises in genetically susceptible individuals, in particular in carriers of HLA-DQ2/DQ8 risk alleles and is associated with various comorbidities. Coeliac disease may confer an increased mortality, but the data are conflicting.

Aims: We aimed to characterize mortality and morbidity in patients with coeliac disease with a special focus on the role of the number of HLA risk alleles.

Methods: We studied coeliac disease-associated morbidity and mortality in ~500 000 participants of the UK Biobank including 2482 individuals with the diagnosis of coeliac disease. We used an unbiased, multivariable Phenome-Wide Association Study (PheWAS) method to uncover the coeliac disease-associated disorders. The tag SNP approach was used to divide the coeliac disease subjects into HLA-DQ2/DQ8-based risk categories.

Results: We found 225 ICD-10 codes significantly associated with coeliac disease. During the median follow-up of 10.7 years, coeliac disease individuals (n = 2482) had higher overall mortality (HR 1.6 [95% CI, 1.4-1.8]) than controls and both an increased occurrence of and an increased mortality from cancer, respiratory and cardiovascular diseases (HR 1.4-1.6). Coeliac disease individuals with 2 HLA-DQ2/8 risk alleles had a similar overall mortality as coeliac disease participants with 0-1 HLA-DQ2/8 alleles, but were more likely to die from lymphoproliferative diseases (HR 7.6 [95% CI, 1.01-57.25]).

Conclusions: Our data suggest that the increased mortality from lymphoproliferative diseases is restricted to those coeliac patients with 2

HLADQ2/8 alleles and that a combination of coeliac disease and HLADQ2/8 alleles is needed to increase the susceptibility. Once confirmed, closer monitoring may be warranted in this high-risk subpopulation.

© 2020 John Wiley & Sons Ltd.

- [45 references](#)

9. Oral manifestations of celiac disease in French children

Arch Pediatr. 2021 Feb;28(2):105-110. doi: 10.1016/j.arcped.2020.11.002. Epub 2020 Dec 17.

Authors

[L Villemur Moreau](#)¹, [O Dicky](#)², [E Mas](#)³, [E Noirrit](#)⁴, [M Marty](#)⁴, [F Vaysse](#)⁴, [J-P Olives](#)³

Affiliations

- ¹ Unité de gastroentérologie, hépatologie, nutrition, diabétologie et maladies héréditaires du métabolisme, hôpital des Enfants, 330, avenue de Grande-Bretagne, TSA 70034, 31059 Toulouse cedex 9, France. Electronic address: lucile.villemur@gmail.com.
- ² Neonatology Unit, Children's Hospital, hôpital des Enfants, 330, avenue de Grande-Bretagne, TSA 70034, 31059 Toulouse cedex 9, France.
- ³ Unité de gastroentérologie, hépatologie, nutrition, diabétologie et maladies héréditaires du métabolisme, hôpital des Enfants, 330, avenue de Grande-Bretagne, TSA 70034, 31059 Toulouse cedex 9, France.
- ⁴ Odontology unit, hôpital des Enfants, 330, avenue de Grande-Bretagne, TSA 70034, 31059 Toulouse cedex 9, France.
- PMID: [33341334](#)
- DOI: [10.1016/j.arcped.2020.11.002](https://doi.org/10.1016/j.arcped.2020.11.002)

Abstract

Celiac disease (CD) is an immune-mediated systemic disorder caused by ingestion of the gluten found in wheat, rye, and barley. The currently estimated prevalence in children is about 1%. CD is a chronic enteropathy with gastrointestinal manifestations including diarrhea, abdominal distension and weight loss, but extra-intestinal features are increasingly being reported. Dental and oral manifestations such as dental enamel defects (ED), delay in dental eruption, and recurrent aphthous stomatitis (RAS) are well-recognized manifestations of CD. The aim of this study was to compare the frequency of oral manifestations (ED, RAS and delay in dental eruption) on deciduous and permanent teeth between children with CD and a control population. An oral examination was performed on 28 CD children and 59 control children. All children were younger than 12 years old and had deciduous or mixed dentition. CD children had significantly more ED and RAS than the control group (67.9% vs. 33.9% $P=0.004$ and 50.0% vs. 21.8% $P=0.011$, respectively). No delay in dental eruption was observed in CD children. ED were mainly grade I and II of Aine's classification (color defects and slight structural defects). ED were more often seen on CD children's deciduous teeth than on permanent teeth (57.1% and 13.6%, respectively; $P<0.001$). The main teeth affected by ED are the second molar and canines of the deciduous teeth, and the first molar, central incisor, and lateral incisors of the permanent teeth. RAS and ED that were symmetrical in all quadrants and occurred firstly in teeth that mineralize during the first year of life both seem to be signs of CD. Thus, more information for dentists and pediatricians on these oral manifestations should help improve detection of CD.

Keywords: Celiac disease; Deciduous teeth; Delay in dental eruption-prevalence; Dental enamel defect; Recurrent aphthous stomatitis.

Copyright © 2020 French Society of Pediatrics. Published by Elsevier Masson SAS. All rights reserved.

Full text links



10. A fluorogenic capped mesoporous aptasensor for gluten detection

Anal Chim Acta. 2021 Feb 22;1147:178-186. doi: 10.1016/j.aca.2020.12.060.
Epub 2020 Dec 30.

Authors

[Luis Pla](#)¹, [M Carmen Martínez-Bisbal](#)², [Elena Aznar](#)³, [Félix Sancenón](#)⁴, [Ramón Martínez-Máñez](#)⁵, [Sara Santiago-Felipe](#)⁶

Affiliations

- ¹ CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain; Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València, Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain; Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe, Av. Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain. Electronic address: plablas@upv.es.
- ² CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain; Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València, Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain; Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe, Av. Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain; Departamento de Química Física, Universitat de València, C/ Doctor Moliner, 50, 46100, Burjassot, Valencia, Spain; Unidad Mixta UPV-CIPF de Investigación en Mecanismos de Enfermedades y Nanomedicina. Universitat Politècnica de València, Centro de Investigación Príncipe Felipe, C/ Eduardo Primo Yúfera 3, 46012, Valencia, Spain. Electronic address: carmen.martinez-bisbal@uv.es.
- ³ CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain;

Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València, Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain; Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe, Av. Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain. Electronic address: elazgi@upvnet.upv.es.

- ⁴ CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain; Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València, Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain; Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe, Av. Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain; Unidad Mixta UPV-CIPF de Investigación en Mecanismos de Enfermedades y Nanomedicina. Universitat Politècnica de València, Centro de Investigación Príncipe Felipe, C/ Eduardo Primo Yúfera 3, 46012, Valencia, Spain; Departamento de Química, Universitat Politècnica de València, Camino de Vera S/n, 46022, Valencia, Spain. Electronic address: fsanceno@upvnet.upv.es.
- ⁵ CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain; Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València, Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain; Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe, Av. Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain; Unidad Mixta UPV-CIPF de Investigación en Mecanismos de Enfermedades y Nanomedicina. Universitat Politècnica de València, Centro de Investigación Príncipe Felipe, C/ Eduardo Primo Yúfera 3, 46012, Valencia, Spain; Departamento de Química, Universitat Politècnica de València, Camino de Vera S/n, 46022, Valencia, Spain. Electronic address: rmaez@gim.upv.es.
- ⁶ CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN) Av, Monforte de Lemos, 3-5. Pabellón 11, Planta 0 28029 Madrid, Spain; Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico, Universitat Politècnica de València,

Universitat de València, Camino de Vera s/n, 46022, Valencia, Spain;
Unidad Mixta de Investigación en Nanomedicina y Sensores. Universitat
Politécnica de València, Instituto de Investigación Sanitaria La Fe, Av.
Fernando Abril Martorell 106, Torre A, planta 6, 46026, Valencia, Spain.
Electronic address: sasanfe@upvnet.upv.es.

- PMID: [33485577](#)
- DOI: [10.1016/j.jaca.2020.12.060](#)

Abstract

Celiac disease is a complex and autoimmune disorder caused by the ingestion of gluten affecting almost 1% of global population. Nowadays an effective treatment does not exist, and the only way to manage the disease is the removal of gluten from the diet. Owing the key role played by gluten, clear and regulated labelling of foodstuff and smart methods for gluten detection are needed to fight frauds on food industry and to avoid the involuntary ingestion of this protein by celiac patients. On that scope, the development of a novel detection system of gluten is here presented. The sensor consists of nanoporous anodic alumina films loaded with a fluorescent dye and capped with an aptamer that recognizes gliadin (gluten's soluble proteins). In the presence of gliadin, aptamer sequences displace from the surface of anodic alumina resulting in pore opening and dye delivery. The dispositive shows a limit of detection (LOD) of $100 \mu\text{g kg}^{-1}$ of gliadin, good selectivity and a detection time of approximately 60 min. Moreover, the sensor is validated in real food samples. This novel probe allows fast gluten detection through a simple signalling process with potential use for food control.

Keywords: Aptamers; Aptasensor; Gluten; Mesoporous supports; Molecular gates.

Copyright © 2020 Elsevier B.V. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Full text links



11. Teaching Families of Children with Celiac Disease about Gluten-Free Diet Using Distributed Education: a Pilot Study

Can J Diet Pract Res. 2021 Mar 1;82(1):38-40. doi: 10.3148/cjdpr-2020-021. Epub 2020 Sep 9.

Authors

[Mohsin Rashid MD, MEd, FRCP\(C\)](#)^{1 1}, [Jennifer Haskett BSc](#)^{1 1}, [Lisa Parkinson McGraw BSc](#)^{1 1}, [Angela Noble MD, MSc, FRCP\(C\)](#)^{1 1}, [Johan van Limbergen MD, PhD, FRCP\(C\)](#)^{1 1}, [Anthony Otley MD, MSc, FRCP\(C\)](#)^{1 1}

Affiliation

- ¹ Division of Gastroenterology and Nutrition, Department of Paediatrics, Faculty of Medicine, Dalhousie University, Halifax, NS.
- PMID: [32902326](#)
- DOI: [10.3148/cjdpr-2020-021](#)

Abstract

Introduction: Treatment of celiac disease is a strict life-long gluten-free diet (GFD). The GFD is complex, and counseling by a dietitian is essential. The number of new referrals for GFD education has increased. We studied the feasibility of GFD teaching using distributed education. **Methods:** The IWK Health Center in Halifax is the only tertiary-care pediatric hospital in the 3 Maritime provinces with GFD experienced dietitians. Families travel long distances to attend teaching sessions. Families outside the Halifax area were offered to participate in the 2.5-hour education sessions held once a month via live videoconference link at their regional hospitals. All participants were surveyed with a 10-item questionnaire assessing the content and delivery and usefulness of information. **Results:** Over a 6-month period, 39 families attended the sessions, 21 locally and 18 at distributed sites across the

Maritimes. The survey was completed by 26 participants (67%). All participants at both sites strongly agreed or agreed that their setting was good for learning and the information provided was easy to understand. There were no significant differences between the 2 groups on any individual questions in the 2 domains assessed (all $P > 0.06$). **Conclusions:** Distributed education on GFD is feasible and as effective as in person education. It affords convenience and savings to families by reducing travel costs.

Full text links



12. [Enhanced expression of immune checkpoint receptors during SARS-CoV-2 viral infection](#)

Mol Ther Methods Clin Dev. 2021 Mar 12;20:109-121. doi: 10.1016/j.omtm.2020.11.002. Epub 2020 Nov 12.

Authors

[Narjes Saheb Sharif-Askari](#)¹, [Fatemeh Saheb Sharif-Askari](#)¹, [Bushra Mdkhana](#)¹, [Saba Al Heialy](#)^{2 3}, [Habiba S Alsafar](#)^{4 5 6}, [Rifat Hamoudi](#)^{1 7}, [Qutayba Hamid](#)^{1 3 7}, [Rabih Halwani](#)^{1 7 8}

Affiliations

- ¹ Sharjah Institute of Medical Research, College of Medicine, University of Sharjah, Sharjah, United Arab Emirates.
- ² College of Medicine, Mohammed Bin Rashid University of Medicine and Health Sciences, Dubai, United Arab Emirates.
- ³ Meakins-Christie Laboratories, Research Institute of the McGill University Healthy Center, McGill University, Montreal, QC, Canada.
- ⁴ Center for Biotechnology, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates.
- ⁵ Department of Biomedical Engineering, College of Engineering, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates.

- ⁶ Department of Genetics and Molecular Biology, College of Medicine and Health Sciences, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates.
- ⁷ Department of Clinical Sciences, College of Medicine, University of Sharjah, Sharjah, United Arab Emirates.
- ⁸ Prince Abdullah Ben Khaled Celiac Disease Research Chair, Department of Pediatrics, Faculty of Medicine, King Saud University, Saudi Arabia.
- PMID: [33200082](#)
- PMCID: [PMC7658590](#)
- DOI: [10.1016/j.omtm.2020.11.002](#)

Free PMC article

Abstract

The immune system is tightly regulated by the activity of stimulatory and inhibitory immune receptors. This immune homeostasis is usually disturbed during chronic viral infection. Using publicly available transcriptomic datasets, we conducted *in silico* analyses to evaluate the expression pattern of 38 selected immune inhibitory receptors (IRs) associated with different myeloid and lymphoid immune cells during coronavirus disease 2019 (COVID-19) infection. Our analyses revealed a pattern of overall upregulation of IR mRNA during severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. A large number of IRs expressed on both lymphoid and myeloid cells were upregulated in nasopharyngeal swabs (NPSs), while lymphoid-associated IRs were specifically upregulated in autopsies, reflecting severe, terminal stage COVID-19 disease. Eight genes (BTLA, LAG3, FCGR2B, PDCD1, CEACAM1, CTLA4, CD72, and SIGLEC7), shared by NPSs and autopsies, were more expressed in autopsies and were directly correlated with viral levels. Single-cell data from blood and bronchoalveolar samples also reflected the observed association between IR upregulation and disease severity. Moreover, compared to SARS-CoV-1, influenza, and respiratory syncytial virus infections, the number and intensities of upregulated IRs were higher in SARS-CoV-2 infections. In conclusion, the immunopathology and severity of COVID-19 could be attributed to dysregulation of different immune inhibitors. Targeting one or more of these immune inhibitors could represent an effective

therapeutic approach for the treatment of COVID-19 early and late immune dysregulations.

Keywords: CEACAM1; COVID-19; SARS-CoV-2; SIGLEC10; immune checkpoint inhibitors; immune inhibitory receptors; influenza A virus; lung autopsies; respiratory viral infection; sialic acid.

© 2020 The Authors.

Conflict of interest statement

The authors declare no competing interests.

- [Cited by 1 article](#)
- [123 references](#)
- [5 figures](#)

Full text links



13. [Properties of flour from pearled wheat kernels as affected by ozone treatment](#)

Food Chem. 2021 Mar 30;341(Pt 2):128203. doi: 10.1016/j.foodchem.2020.128203. Epub 2020 Sep 30.

Authors

[Wei Zhang](#)¹, [Liuyan Li](#)², [Zaixi Shu](#)², [Pingping Wang](#)², [Xuefeng Zeng](#)³, [Wangyang Shen](#)², [Wenping Ding](#)⁴, [Yong-Cheng Shi](#)⁵

Affiliations

- ¹ College of Food Science and Engineering, Wuhan Polytechnic University, Wuhan 430023, China; Key Laboratory for Deep Processing of Major Grain and Oil(Wuhan Polytechnic University), Ministry of Education, Wuhan 430023, China; Department of Grain Science and Industry, Kansas State University, Manhattan 66506, USA.

- ² College of Food Science and Engineering, Wuhan Polytechnic University, Wuhan 430023, China.
- ³ School of Liquor and Food Engineering, Guizhou University, Guiyang 550000, China.
- ⁴ College of Food Science and Engineering, Wuhan Polytechnic University, Wuhan 430023, China; Key Laboratory for Deep Processing of Major Grain and Oil(Wuhan Polytechnic University), Ministry of Education, Wuhan 430023, China. Electronic address: wenpingding@163.com.
- ⁵ Department of Grain Science and Industry, Kansas State University, Manhattan 66506, USA. Electronic address: ycshi@ksu.edu.
- PMID: [33038803](https://pubmed.ncbi.nlm.nih.gov/33038803/)
- DOI: [10.1016/j.foodchem.2020.128203](https://doi.org/10.1016/j.foodchem.2020.128203)

Abstract

Two different pearling degrees of wheat kernels (lightly-pearled: 14.4% and heavily-pearled: 38.9%) and un-pearled kernels were treated with ozone and evaluated for flour compositions and properties. Ozonation did not change main compositions and damaged starch content of three kernels' flours. Flour brightness of all three kernels was improved after ozone treatment. Ozonation enhanced the dough strength of the flours from un-pearled and pearled kernels and the effect elevated with increasing pearling degree. Ozone treatment increased the peak viscosity of flour and the level of increase in heavily-pearled kernels was greater than un-pearled and lightly-pearled. Ozonation resulted in an increase in the insoluble protein polymer content of heavily-pearled kernels' flour, but only had a slight effect on un-pearled lightly-pearled kernels. After ozone treatment, un-pearled and lightly-pearled kernels exhibited increases in molecular weight of starch, but heavily-pearled resulted in the opposite trend.

Keywords: Dough property; Ozone; Pasting property; Wheat.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



14. Celiac Disease and Elevated Liver Enzymes: A Review

J Clin Transl Hepatol. 2021 Feb 28;9(1):116-124. doi: 10.14218/JCTH.2020.00089. Epub 2020 Dec 7.

Authors

[Jaimy Villavicencio Kim](#)¹, [George Y Wu](#)²

Affiliations

- ¹ Department of Medicine, University of Connecticut Health Center, Farmington, CT, USA.
- ² Division of GastroenterologyHepatology, University of Connecticut Health Center, Farmington, CT, USA.
- PMID: [33604262](#)
- PMCID: [PMC7868701](#)
- DOI: [10.14218/JCTH.2020.00089](#)

Free PMC article

Abstract

Aminotransferases are commonly found to be elevated in patients with celiac disease in association with two different types of liver dysfunction: cryptogenic liver disorders and autoimmune disorders. The purpose of this review is to discuss the mechanisms by which aminotransferases become elevated in celiac disease, clinical manifestations, and response to gluten-free diet. Many studies have shown that celiac patients with cryptogenic liver disease have normalization in aminotransferases, intestinal histologic improvement and serologic resolution after 6-12 months of strict gluten-free diet. In patients with an underlying autoimmune liver disease, simultaneous treatment for both conditions resulted in normalized elevated aminotransferases. The literature suggests that intestinal permeability may be at least one of the mechanisms by which liver damage occurs. Patients with celiac disease should have liver enzymes routinely checked and treated with a strict gluten-free diet if found to be abnormal. Lack of improvement in

patients who have strictly adhered to gluten-free diet should prompt further workup for other causes of liver disease.

Keywords: Autoimmune liver disease; Celiac disease; Celiac hepatitis; Gluten free diet.

© 2021 Authors.

Conflict of interest statement

The authors have no conflict of interests related to this publication.

- [59 references](#)

Full text links



15. [Sprouted oat as a potential gluten-free ingredient with enhanced nutritional and bioactive properties](#)

Food Chem. 2021 Feb 15;338:127972. doi: 10.1016/j.foodchem.2020.127972. Epub 2020 Sep 10.

Authors

[Natalia Aparicio-García](#)¹, [Cristina Martínez-Villaluenga](#)¹, [Juana Frias](#)¹, [Elena Peñas](#)²

Affiliations

- ¹ Institute of Food Science, Technology and Nutrition (ICTAN-CSIC), Juan de la Cierva 3, 28006 Madrid, Spain.
- ² Institute of Food Science, Technology and Nutrition (ICTAN-CSIC), Juan de la Cierva 3, 28006 Madrid, Spain. Electronic address: elenape@ictan.csic.es.
- PMID: [32932082](#)

- DOI: [10.1016/j.foodchem.2020.127972](https://doi.org/10.1016/j.foodchem.2020.127972)

Abstract

This study is aimed to produce and characterize a novel gluten-free ingredient from oat through sprouting at 18 °C for 96 h. The nutritional and bioactive properties as well as key enzymatic activities were studied in sprouted oat powder and compared with those of oat grain powder (control). Sprouted oat powder was an excellent source of protein (10.7%), β -glucan (2.1%), thiamine (687.1 μ g/100 g), riboflavin (218.4 μ g/100 g), and minerals (P, K, Mg and Ca), and presented better amino acid and fatty acid compositions and levels of γ -aminobutyric acid (54.9 mg/100 g), free phenolics (507.4 mg GA/100 g) and antioxidant capacity (1744.3 mg TE/100 g) than control. Enhanced protease and α -amylase and reduced lipase activities were observed in sprouted oat powder, which are promising features to improve its nutritional, sensorial and health-promoting properties. These results support the use of sprouted oat powder as a promising gluten-free functional ingredient.

Keywords: Antioxidant capacity; Celiac disease; Enzymatic activities; Flour; Germination; Oat.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

- [Cited by 1 article](#)

Full text links



16. [Effects of the size distribution of wheat starch on noodles with and without gluten](#)

J Texture Stud. 2021 Feb;52(1):101-109. doi: 10.1111/jtxs.12564. Epub 2020 Oct 9.

Authors

[Huili Yan](#)¹, [Qiyu Lu](#)¹

Affiliation

- ¹ School of Food Science and Technology, Henan University of Technology, Zhengzhou, Henan Province, People's Republic of China.
- PMID: [32978792](#)
- DOI: [10.1111/jtxs.12564](#)

Abstract

To understand the effects of A- and B-type wheat starch on noodle quality, two noodle models with (Model 1) and without (Model 2) gluten were constructed with five different ratios of A- to B-granules (100A-0B, 75A-25B, 50A-50B, 25A-75B, and 0A-100B). With increasing proportions of B-granules, the noodle structures of Models 1 and 2 became increasingly dense. The cooking loss, water absorption, proportion of free water, chewiness, cohesiveness and resilience decreased from 35.64 to 15.49%, 240.92 to 228.58%, 88.89 to 85.98%, 21.93 to 13.24 N, 0.77 to 0.56, and 0.61 to 0.36, respectively, with the increased proportion of B-granules in Model 2, while those parameters normally presented "V" or inverted "V" trends in Model 1. Compared to their counterparts in Model 2, gluten networks with 25-50% B-granules had an outstanding ability to increase the percentage of tightly bound water, hardness, chewiness and springiness by 4.50%, 24.07 N, 25.05 N, and 0.17 at most and reduce the proportion of free water and water absorption by 5.56 and 73.70% at most, respectively. The results indicated that the effect of the gluten network on noodle qualities may partially depend on its structure, which is shaped by the granule size distribution. Compared to the other characteristics of noodles, the springiness was influenced by a more complicated mechanism involving A- and B-granules in Model 2, while it was strongly affected by the gluten network under the given experimental conditions in Model 1.

Keywords: gluten network; model construction; noodle quality; size distribution; wheat starch.

- [32 references](#)

17. **Optimization of gluten-free sponge cake fortified with whey protein concentrate using mixture design methodology**

Food Chem. 2021 May 1;343:128457. doi: 10.1016/j.foodchem.2020.128457.
Epub 2020 Oct 24.

Authors

[Imène Ammar](#)¹, [Houda Gharsallah](#)², [Abir Ben Brahim](#)³, [Hamadi Attia](#)³, [M A Ayadi](#)³, [Bilel Hadrich](#)⁴, [Imène Felfoul](#)⁵

Affiliations

- ¹ Université de Sfax, ENIS, Laboratoire Analyse, Valorisation et Sécurité des Aliments, Sfax 3038, Tunisia. Electronic address: imene_ammam@yahoo.fr.
- ² Université de Sfax, ENIS, Laboratoire Analyse, Valorisation et Sécurité des Aliments, Sfax 3038, Tunisia; Tunisian Olive Institute, University of Sfax, Sfax, Tunisia.
- ³ Université de Sfax, ENIS, Laboratoire Analyse, Valorisation et Sécurité des Aliments, Sfax 3038, Tunisia.
- ⁴ Laboratory of Enzyme Engineering and Microbiology, Engineering National School of Sfax (ENIS), University of Sfax, Tunisia.
- ⁵ Université de Sfax, ENIS, Laboratoire Analyse, Valorisation et Sécurité des Aliments, Sfax 3038, Tunisia. Electronic address: imenef@gmail.com.
- PMID: [33153810](#)
- DOI: [10.1016/j.foodchem.2020.128457](https://doi.org/10.1016/j.foodchem.2020.128457)

Abstract

This study aimed to optimize mixtures of whey protein concentrate (WPC) and two flours of rice and maize flours for the production of gluten-free sponge

cakes. This was obtained by using mixture design methodology. WPC incorporation had positive effects on specific volume and baking loss of cakes, whilst, their incorporation increased their hardness. Considering all cakes properties, two formulas F1 (78.5% Maize, 15% Rice and 6.5% WPC) and F2 (82.4% Maize, 12% Rice and 5.6% WPC) were optimized using a mixture design. The microstructure F1 was more organized and very well structured with smaller aggregates. According to the organoleptic evaluation, F1 was also most appreciated by the tasting panel. The findings of the present study indicated that maize and rice flours, and WPC could be used as a substitute for wheat flour in producing sponge cakes of high quality.

Keywords: Gluten-free sponge cake; Maize; Mixture design; Rice; WPC.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



18. [Evaluating Responses to Gluten Challenge: A Randomized, Double-Blind, 2-Dose Gluten Challenge Trial](#)

Gastroenterology. 2021 Feb;160(3):720-733.e8. doi: 10.1053/j.gastro.2020.10.040. Epub 2020 Oct 29.

Authors

[Maureen M Leonard](#)¹, [Jocelyn A Silvester](#)², [Daniel Leffler](#)³, [Alessio Fasano](#)¹, [Ciarán P Kelly](#)⁴, [Suzanne K Lewis](#)⁵, [Jeffrey D Goldsmith](#)⁶, [Elliot Greenblatt](#)⁷, [William W Kwok](#)⁸, [William J McAuliffe](#)⁹, [Kevin Galinsky](#)⁹, [Jenifer Siegelman](#)⁹, [I-Ting Chow](#)⁸, [John A Wagner](#)⁹, [Anna Sapone](#)⁹, [Glennnda Smithson](#)¹⁰

Affiliations

- ¹ Center for Celiac Research and Treatment, Massachusetts General Hospital, Boston, Massachusetts; Celiac Disease Research Program, Harvard Medical School, Boston, Massachusetts.

- ² Celiac Disease Research Program, Harvard Medical School, Boston, Massachusetts; Department of Pediatrics, Division of Gastroenterology, Hepatology and Nutrition, Boston Children's Hospital, Boston, Massachusetts; Celiac Center, Beth Israel Deaconess Medical Center, Boston, Massachusetts.
- ³ Celiac Disease Research Program, Harvard Medical School, Boston, Massachusetts; Takeda Pharmaceuticals Inc Co, Cambridge, Massachusetts.
- ⁴ Celiac Disease Research Program, Harvard Medical School, Boston, Massachusetts; Celiac Center, Beth Israel Deaconess Medical Center, Boston, Massachusetts.
- ⁵ Department of Medicine, Columbia University Medical Center, New York, New York.
- ⁶ Celiac Disease Research Program, Harvard Medical School, Boston, Massachusetts; Department of Pathology, Boston Children's Hospital, Boston, Massachusetts.
- ⁷ Invicro, A Konica Minolta Company, Boston, Massachusetts.
- ⁸ Benaroya Research Institute at Virginia Mason, Seattle, Washington.
- ⁹ Takeda Pharmaceuticals Inc Co, Cambridge, Massachusetts.
- ¹⁰ Takeda Pharmaceuticals Inc Co, Cambridge, Massachusetts. Electronic address: glennda.smithson@takeda.com.
- PMID: [33130104](#)
- PMCID: **PMC7878429** (available on 2022-02-01)
- DOI: [10.1053/j.gastro.2020.10.040](https://doi.org/10.1053/j.gastro.2020.10.040)

Abstract

Background & aims: Gluten challenge is used to diagnose celiac disease (CeD) and for clinical research. Sustained gluten exposure reliably induces histologic changes but is burdensome. We investigated the relative abilities of multiple biomarkers to assess disease activity induced by 2 gluten doses, and aimed to identify biomarkers to supplement or replace histology.

Methods: In this randomized, double-blind, 2-dose gluten-challenge trial conducted in 2 US centers (Boston, MA), 14 adults with biopsy-proven CeD were randomized to 3 g or 10 g gluten/d for 14 days. The study was powered to detect changes in villous height to crypt depth, and stopped at planned interim analysis on reaching this end point. Additional end points included

gluten-specific cluster of differentiation (CD)4 T-cell analysis with HLA-DQ2-gluten tetramers and enzyme-linked immune absorbent spot, gut-homing CD8 T cells, interleukin-2, symptoms, video capsule endoscopy, intraepithelial leukocytes, and tissue multiplex immunofluorescence.

Results: All assessments showed changes with gluten challenge. However, time to maximal change, change magnitude, and gluten dose-response relationship varied. Villous height to crypt depth, video capsule endoscopy enteropathy score, enzyme-linked immune absorbent spot, gut-homing CD8 T cells, intraepithelial leukocyte counts, and HLA-DQ2-restricted gluten-specific CD4 T cells showed significant changes from baseline at 10 g gluten only; symptoms were significant at 3 g. Symptoms and plasma interleukin-2 levels increased significantly or near significantly at both doses. Interleukin-2 appeared to be the earliest, most sensitive marker of acute gluten exposure.

Conclusions: Modern biomarkers are sensitive and responsive to gluten exposure, potentially allowing less invasive, lower-dose, shorter-duration gluten ingestion. This work provides a preliminary framework for rational design of gluten challenge for CeD research. ClinicalTrials.gov number, [NCT03409796](https://clinicaltrials.gov/ct2/show/study/NCT03409796).

Keywords: Biomarkers; Celiac Disease; Gluten Challenge; T Cells.

Copyright © 2021 The Authors. Published by Elsevier Inc. All rights reserved.

Full text links



19. [**Ipomoea hederacea Jacq.: A plant with promising antihypertensive and cardio-protective effects**](#)

J Ethnopharmacol. 2021 Mar 25;268:113584. doi: 10.1016/j.jep.2020.113584. Epub 2020 Nov 12.

Authors

[Mueen Ahmad Chaudhry](#)¹, [Alamgeer](#)², [Muhammad Naveed Mushtaq](#)³, [Ishfaq Ali Bukhari](#)⁴, [Asaad Mohamed Assiri](#)⁵

Affiliations

- ¹ Laboratory of Cardiovascular Research and Integrative Pharmacology, College of Pharmacy, University of Sargodha, Sargodha, 40100, Pakistan; Faculty of Pharmacy, The University of Lahore, Lahore, Pakistan.
- ² Laboratory of Cardiovascular Research and Integrative Pharmacology, College of Pharmacy, University of Sargodha, Sargodha, 40100, Pakistan; Punjab University College of Pharmacy, Lahore, Pakistan. Electronic address: alam_yuchi@yahoo.com.
- ³ Faculty of Pharmacy, The University of Lahore, Lahore, Pakistan.
- ⁴ Department of Pharmacology, College of Medicine, King Saud University Riyadh, Saudi Arabia.
- ⁵ Prince Abdullah Ben Khaled Celiac Disease Research Chair, Department of Pediatrics, Faculty of Medicine, King Saud University, Riyadh, Saudi Arabia.
- PMID: [33189838](#)
- DOI: [10.1016/j.jep.2020.113584](#)

Abstract

Ethnopharmacological relevance: Seeds of *Ipomoea hederacea* Jacq. (family: Convolvulaceae) are traditionally used to treat high blood pressure and cardiac diseases.

Aim of the study: Present study was conducted to validate the traditional claim and explore the possible mechanism(s) of antihypertensive effects of *I. hederacea*.

Materials and methods: Aqueous-ethanolic extract and activity based fractions of *I. hederacea* were evaluated using invasive blood pressure measuring technique, isolated tissue experiments, fructose induced hypertension/metabolic syndrome and biochemical analysis. Phytochemical analysis of active fraction was performed with aim to identify chemical composition of *I. hederacea* seeds. LC-MS analysis was also performed to

identify the compounds proposed to be present in active fraction of *I. hederacea* seeds.

Results: Crude extract/fractions of *I. hederacea* showed dose (0.01-100 mg/kg) dependent significant hypotensive effect in normotensive anesthetized rats, similar to verapamil (0.01-30 mg/kg). Pretreatment with hexamethonium and atropine mediated no significant changes in hypotensive effect of butanol fraction of *I. hederacea* (Ih.Bn) at 3 mg/kg dose. However, a significant decrease in the hypotensive effect of Ih.Bn 3 mg/kg ($-34.82 \pm 3.36\%$; $p < 0.05$) was observed in the presence of L-NAME (20 mg/kg). Similarly, Ih.Bn (3 mg/kg) showed no significant effect on angiotensin-II response. However, response of phenylephrine ($45.60 \pm 9.63\%$; $p < 0.05$) and dobutamine ($18.25 \pm 2.10\%$; $p < 0.01$) was significantly decreased in the presence of Ih.Bn 3 mg/kg. Ih.Bn also exhibited dose dependent (0.01-100 mg/kg) antihypertensive effect in fructose induced hypertensive rats, similar to verapamil (0.01-30 mg/kg). Concomitant treatment with Ih.Bn (3, 10 and 30 mg/kg) for six weeks showed a dose dependent profound protection with significant ($p < 0.01$) effect at 30 mg/kg against fructose induced basal mean arterial pressure (142.2 ± 4.62 mmHg). Ih.Bn did not significantly change response of PE, Ang-II and Epi was observed in invasive and ex vivo techniques. However, Ih.Bn significantly ($p < 0.01$; $p < 0.001$) prevented against decrease in vascular response of acetylcholine in anesthetized rats and in isolated aorta of rat. A significant dose dependent decrease in triglyceride and glucose level ($p < 0.001$), and increase in HDL level ($p < 0.05$) was observed in Ih.Bn treated groups. Results of LC-MS analysis of Ih.Bn showed the presence of 24 compounds that belong to different chemical classes, including carboxylic acid, flavonoids, oligopeptides and tripeptide that are known to have antihypertensive and vasorelaxant properties.

Conclusions: Results of present study indicate the presence of hypotensive/antihypertensive effect in crude extract/fractions of *I. hederacea* with most potent effect shown by butanol fraction (Ih.Bn), possibly mediated through α_1 blocking, β blocking and iNOS/cGMP stimulating activity.

Keywords: Beta blocking activity; Metabolic syndrome; Nitric oxide synthase; Vascular dysfunction.

Full text links



20. [The use of peripheral blood mononuclear cells in celiac disease diagnosis and treatment](#)

Expert Rev Gastroenterol Hepatol. 2021 Mar;15(3):305-316. doi: 10.1080/17474124.2021.1850262. Epub 2020 Nov 26.

Authors

[Alma Kurki](#)¹, [Esko Kemppainen](#)¹, [Pilvi Laurikka](#)¹, [Katri Kaukinen](#)^{1 2}, [Katri Lindfors](#)¹

Affiliations

- ¹ Celiac Disease Research Center, Faculty of Medicine and Health Technology, Tampere University, Tampere, Finland.
- ² Department of Internal Medicine, Tampere University Hospital, Tampere, Finland.
- PMID: [33176106](#)
- DOI: [10.1080/17474124.2021.1850262](#)

Abstract

Introduction: Celiac disease is characterized by an abnormal immune activation driven by the ingestion of gluten from wheat, barley, and rye. Gluten-specific CD4⁺ T cells play an important role in disease pathogenesis and are detectable among peripheral blood mononuclear cells (PBMCs). **Areas covered:** This review summarizes the use of celiac disease patient PBMCs in clinical applications focusing on their exploitation in the development of diagnostic approaches and novel drugs to replace or complement gluten-free diet. **Expert opinion:** The most used PBMC-based methods applied in celiac disease research include ELISpot and HLA-DQ:gluten tetramer technology. ELISpot has been utilized particularly in research aiming to develop a celiac disease vaccine and in studies addressing the toxicity of different grains in celiac disease. HLA-DQ:gluten tetramer technology on the other hand initially

focused on improving current diagnostics but in combination with additional markers it is also a useful outcome measure in clinical trials to monitor the efficacy of drug candidates. In addition, the technology serves well in the more detailed characterization of celiac disease-specific T cells, thereby possibly revealing novel therapeutic targets. Future studies may also reveal clinical applications for PBMC microRNAs and/or dendritic cells or monocytes present among PBMCs.

Keywords: Celiac disease; ELISpot; HLA-DQ:gluten tetramer; diagnostics; gluten; treatment.

Full text links



21. [Real-World Gluten Exposure in Patients With Celiac Disease on Gluten-Free Diets, Determined From Gliadin Immunogenic Peptides in Urine and Fecal Samples](#)

Clin Gastroenterol Hepatol. 2021 Mar;19(3):484-491.e1. doi: 10.1016/j.cgh.2020.03.038. Epub 2020 Mar 23.

Authors

[Juan Pablo Stefanolo](#)¹, [Martín Tálamo](#)¹, [Samanta Dodds](#)¹, [María de la Paz Temprano](#)¹, [Ana Florencia Costa](#)¹, [María Laura Moreno](#)¹, [María Inés Pinto-Sánchez](#)², [Edgardo Smecuol](#)¹, [Horacio Vázquez](#)¹, [Andrea Gonzalez](#)¹, [Sonia Isabel Niveloni](#)¹, [Eduardo Mauriño](#)¹, [Elena F Verdu](#)², [Julio César Bai](#)³

Affiliations

- ¹ Dr. C. Bonorino Udaondo Gastroenterology Hospital, Buenos Aires, Argentina.
- ² Farncombe Family Digestive Health Research Institute, McMaster University Medical Centre, Health Sciences, Hamilton, Ontario, Canada.

- ³ Dr. C. Bonorino Udaondo Gastroenterology Hospital, Buenos Aires, Argentina; Research Institutes of Health, Universidad del Salvador, Buenos Aires, Argentina. Electronic address: Jbai@intramed.net.
- PMID: [32217152](#)
- DOI: [10.1016/j.cgh.2020.03.038](#)

Abstract

Background & aims: It is not clear how often patients who are on gluten-free diets (GFDs) for treatment of celiac disease still are exposed to gluten. We studied levels of gluten immunogenic peptides (GIP) in fecal and urine samples, collected over 4 weeks, from patients with celiac disease on a long-term GFD.

Methods: We performed a prospective study of 53 adults with celiac disease who had been on a GFD for more than 2 years (median duration, 8 y; interquartile range, 5-12 y) in Argentina. At baseline, symptoms were assessed by the celiac symptom index questionnaire. Patients collected stool each Friday and Saturday and urine samples each Sunday for 4 weeks. We used a commercial enzyme-linked immunosorbent assay to measure GIP in stool and point-of-care tests to measure GIP in urine samples.

Results: Overall, 159 of 420 stool and urine samples (37.9%) were positive for GIP; 88.7% of patients had at least 1 fecal or urine sample that was positive for GIP (median, 3 excretions). On weekends (urine samples), 69.8% of patients excreted GIP at least once, compared with 62.3% during weekdays (stool). The number of patients with a sample that was positive for GIP increased over the 4-week study period (urine samples in week 1 vs week 4: $P < .05$). Patients with symptoms had more weeks in which GIP was detected in stool than patients without symptoms ($P < .05$). The number of samples that were positive for GIP correlated with titers of deamidated gliadin peptide IgA in patients' blood samples, but not with levels of tissue transglutaminase.

Conclusions: Patients with celiac disease on a long-term GFD still frequently are exposed to gluten. Assays to detect GIP in stool and urine might be used to assist dietitians in assessment of GFD compliance.

Keywords: Celiac Disease; Follow-up; GIP Excretion; Gluten-Free Diet Adherence.

Copyright © 2021 AGA Institute. All rights reserved.

- [Cited by 5 articles](#)

Full text links



22. [Intestinal intraepithelial lymphocytes: Maintainers of intestinal immune tolerance and regulators of intestinal immunity](#)

J Leukoc Biol. 2021 Feb;109(2):339-347. doi: 10.1002/JLB.3RU0220-111. Epub 2020 Jul 17.

Authors

[Haitao Ma](#)¹, [Yuan Qiu](#)¹, [Hua Yang](#)¹

Affiliation

- ¹ Department of General Surgery, Xinqiao Hospital, Army Medical University, Chongqing, China.
- PMID: [32678936](#)
- DOI: [10.1002/JLB.3RU0220-111](#)

Abstract

Intestinal immune tolerance is essential for the immune system, as it prevents abnormal immune responses to large quantities of antigens from the intestinal lumen, such as antigens from commensal microorganisms, and avoids self-injury. Intestinal intraepithelial lymphocytes (IELs), a special group of mucosal T lymphocytes, play a significant role in intestinal immune tolerance. To accomplish this, IELs exhibit a high threshold of activation and low reactivity to most antigens from the intestinal lumen. In particular,

CD8 $\alpha\alpha^+$ TCR $\alpha\beta^+$ IELs, TCR $\gamma\delta^+$ IELs, and CD4 $^+$ CD8 $\alpha\alpha^+$ IELs show great potential for maintaining intestinal immune tolerance and regulating intestinal immunity. However, if the intestinal microenvironment becomes abnormal or intestinal tolerance is broken, IELs may be activated abnormally and become pathogenic.

Keywords: CD4+CD8 $\alpha\alpha$ +IELs; CD8 $\alpha\alpha$ +TCR $\alpha\beta$ +IELs; CD8 $\alpha\beta$ +TCR $\alpha\beta$ + IELs and celiac disease; TCR $\gamma\delta$ + IELs.

© 2020 The Authors. Journal of Leukocyte Biology published by Wiley Periodicals LLC on behalf of Society for Leukocyte Biology.

- [92 references](#)

Full text links



23. [Old and modern wheat \(*Triticum aestivum* L.\) cultivars and their potential to elicit celiac disease](#)

Food Chem. 2021 Mar 1;339:127952. doi: 10.1016/j.foodchem.2020.127952. Epub 2020 Sep 12.

Authors

[Darina Pronin](#)¹, [Andreas Börner](#)², [Katharina Anne Scherf](#)³

Affiliations

- ¹ Leibniz-Institute for Food Systems Biology at the Technical University of Munich, Lise-Meitner-Str. 34, 85354 Freising, Germany. Electronic address: d.pronin@leibniz-lsb@tum.de.
- ² Genebank Department, Leibniz Institute of Plant Genetics and Crop Plant Research, Corrensstr. 3, 06466 Seeland, OT Gatersleben, Germany. Electronic address: boerner@ipk-gatersleben.de.
- ³ Leibniz-Institute for Food Systems Biology at the Technical University of Munich, Lise-Meitner-Str. 34, 85354 Freising, Germany; Department

of Bioactive and Functional Food Chemistry, Institute of Applied Biosciences, Karlsruhe Institute of Technology (KIT), Adenauerring 20a, 76131 Karlsruhe, Germany. Electronic address: katharina.scherf@kit.edu.

- PMID: [33152854](#)
- DOI: [10.1016/j.foodchem.2020.127952](#)

Abstract

One potential explanation for the increasing prevalence of celiac disease (CD) over the past decades is that breeding may have inadvertently changed the immunoreactive potential of wheat. To test this hypothesis, we quantitated four CD-active peptides, namely the 33-mer and peptides containing the DQ2.5-glia- α 1a/DQ2.5-glia- α 2 (P1), DQ2.5-glia- α 3 (P2) and DQ2.5-glia- γ 1 (P3) epitopes, in a set of 60 German hexaploid winter wheat cultivars from 1891 to 2010 and grown in three consecutive years. The contents of CD-active peptides were affected more by the harvest year than by the cultivar. The 33-mer and P1 peptides showed no tendency regarding their absolute contents in the flour, but they tended to increase slightly over time when calculated relative to the α -gliadins. No trends in relative or absolute values were observed for the P2 and P3 peptides derived from α - and γ -gliadins. Therefore, the immunoreactive potential of old and modern wheat cultivars appears to be similar.

Keywords: 33-mer; Breeding; Celiac disease; ELISA; Gliadin; Gluten; Mass spectrometry; Wheat.

Copyright © 2020 Elsevier Ltd. All rights reserved.

- [Cited by 1 article](#)

Full text links



24. [Performance of Viabahn balloon-expandable stent compared with self-](#)

expandable covered stents for branched endovascular aortic repair

J Vasc Surg. 2021 Feb;73(2):410-416.e2. doi: 10.1016/j.jvs.2020.05.028. Epub 2020 May 27.

Authors

[Fernando Motta](#)¹, [F Ezequiel Parodi](#)¹, [Martyn Knowles](#)¹, [Jason R Crowner](#)¹, [Luigi Pascarella](#)¹, [Katharine L McGinagle](#)¹, [William A Marston](#)¹, [Melina R Kibbe](#)¹, [Elad Ohana](#)¹, [Mark A Farber](#)²

Affiliations

- ¹ Division of Vascular Surgery, Department of Surgery, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC.
- ² Division of Vascular Surgery, Department of Surgery, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC. Electronic address: mark_farber@med.unc.edu.
- PMID: [32473341](#)
- DOI: [10.1016/j.jvs.2020.05.028](https://doi.org/10.1016/j.jvs.2020.05.028)

Abstract

Objective: The objective of this study was to compare the performance between the Viabahn balloon-expandable stent (VBX; Viabahn [W. L. Gore & Associates, Flagstaff, Ariz]) and a covered self-expandable stent (SES; Fluency [Bard Peripheral Vascular, Tempe, Ariz]) used as bridging stents for directional branches during fenestrated or branched endovascular aneurysm repair of complex aortic aneurysms.

Methods: Patients with thoracoabdominal aortic aneurysms (type I-IV) or pararenal aortic aneurysms either at high risk for open repair or unsuitable for endovascular repair with commercially available devices were prospectively enrolled in a physician-sponsored investigational device exemption trial. Descriptive statistics of the cohort included demographics, risk factors, and anatomic and device characteristics. Individual branches were grouped as

either VBX or SES and had data analyzed for primary patency, branch-related type I or type III endoleaks, branch instability, branch-related secondary intervention, and branch-related aortic rupture or death. Categorical variables were expressed as total and percentage, and continuous variables were expressed as median (interquartile range). Kaplan-Meier curves were used to estimate long-term results. Groups were compared with the log-rank test. P value <.05 was considered statistically significant.

Results: During the period from July 2012 through June 2019, there were 263 patients treated for complex aortic aneurysm (thoracoabdominal aortic aneurysm) with fenestrated or branched endografts. The devices used were either custom-manufactured devices or off-the-shelf p-Branch or t-Branch (Cook Medical, Bloomington, Ind) devices. The median age was 71 years (interquartile range, 66-79 years); 70% were male, and 81% were white. The most common cardiac risk factors were smoking (92%), hypertension (91%), hyperlipidemia (78%), and chronic obstructive pulmonary disease (52%). The total number of vessels incorporated into the repair was 977, with branches representing 18.4% (179 branches). Among these 179 branches, the celiac artery, superior mesenteric artery, right renal artery, and left renal artery received 54 (30%), 56 (31%), 38 (21%), and 31 (18%) branches, respectively. VBX and SES groups represented 96 (54%) and 81 (46%) of the branches implanted. The celiac artery, superior mesenteric artery, right renal artery, and left renal artery received VBX as a bridging stent in 40%, 46.7%, 33.8%, and 32.2% respectively. The overall cohort survival rate was 78.5% at 24 months. There was no branch-related rupture or mortality. Primary patency at 24 months (VBX, 98.1%; SES, 98.6%; log-rank, P = .95), freedom from endoleak (VBX, 95.6%; SES, 98.6%; log-rank, P = .66), freedom from secondary intervention (VBX, 94.7%; SES, 98.1%; log-rank, P = .33), and freedom from branch instability (VBX, 95.6%; SES, 97.2%; log-rank, P = .77) were similar between groups.

Conclusions: This initial experience with VBX stents demonstrated excellent primary patency and similarly low rates of branch-related complications and endoleaks, with no branch-related aortic rupture or death. Our results demonstrate that in a high-volume, experienced aortic center, the VBX stent is a safe and effective bridging stent option during branched endovascular aortic repair. Multicenter studies with a larger cohort and longer follow-up are necessary to validate these findings.

Keywords: Balloon-expandable stent; Fenestrated-branched repair; Self-expandable covered stent; Thoracoabdominal aortic aneurysm.

Copyright © 2020 Society for Vascular Surgery. All rights reserved.

Full text links



25. [Association Between Severity of Diabetic Ketoacidosis at Diagnosis and Multiple Autoimmunity in Children With Type 1 Diabetes Mellitus: A Study From a Greek Tertiary Centre](#)

Can J Diabetes. 2021 Feb;45(1):33-38.e2. doi: 10.1016/j.jcjd.2020.05.003. Epub 2020 May 18.

Authors

[Kostas Kakleas](#)¹, [Emre Basatemur](#)², [Kyriaki Karavanaki](#)³

Affiliations

- ¹ Paediatric Department, Leicester Royal Infirmary, Leicester, United Kingdom. Electronic address: koskaki2@yahoo.gr.
- ² Population, Policy and Practice Programme, Institute of Child Health, University College of London, London, United Kingdom.
- ³ Diabetic Clinic, Second Department of Pediatrics, University of Athens, "P&A Kyriakou" Children's Hospital, Athens, Greece.
- PMID: [32800761](#)
- DOI: [10.1016/j.jcjd.2020.05.003](https://doi.org/10.1016/j.jcjd.2020.05.003)

Abstract

Objectives: Type 1 diabetes mellitus is a chronic disorder associated with development of autoimmunity. In this work, we studied the relationship between severity of acidosis at diagnosis and future risk for autoimmunity development in children with type 1 diabetes.

Methods: We investigated the presence of associated autoimmunity in 144 children with type 1 diabetes (mean \pm standard deviation: age, 12.44 \pm 4.76 years; diabetes duration, 4.41 \pm 3.70 years). We identified the presence of thyroid disease, celiac disease, autoimmune gastritis and adrenal autoimmunity, and retrospectively reviewed the files for presence of diabetic ketoacidosis at diagnosis.

Results: Autoimmunity prevalence was 16.7% for thyroid autoimmunity, 9.5% for celiac disease, 5% for gastric autoimmunity and 8.0% for multiple autoimmunities. There were strong associations between severe acidosis at diabetes diagnosis (pH<7.10) and development of thyroid autoimmunity (odds ratio [OR], 5.34; 95% confidence interval [CI], 1.90–15.1; p<0.001), celiac disease (OR, 5.83; 95% CI, 1.19–28.6; p=0.013), gastric autoimmunity (OR, 13.1; 95% CI, 1.22–140; p=0.006) and multiple autoimmunity (OR, 26.7; 95% CI, 2.36–301; p<0.01). The associations persisted after adjustment for sex, age at diabetes diagnosis, age at assessment, time since diabetes diagnosis and antglutamic acid decarboxylase autoantibody status.

Conclusions: The severity of acidosis at diagnosis is strongly associated with the development of associated autoimmune diseases in children with type 1 diabetes and could act as a predictive factor for multiple autoimmunity development. This association can be either due to effect of acidosis on immune system or to the presence of a more aggressive diabetes endotype.

Keywords: acidocétose diabétique; associated autoimmunity; auto-immunité associée; diabetes endotypes; diabetic ketoacidosis; diabète sucré de type 1; endotypes de diabète; type 1 diabetes mellitus.

Copyright © 2020 Canadian Diabetes Association. Published by Elsevier Inc. All rights reserved.

Full text links

26. **Effect of different gluten-free flours on the sensory characteristics of a vegan *alfajor*: Vegan gluten-free *Alfajor* development**

Food Sci Technol Int. 2021 Mar;27(2):145-150. doi: 10.1177/1082013220939792. Epub 2020 Jul 12.

Authors

[Rebecca Cardillo Diniz](#)¹, [Fernanda Morcatti Coura](#)¹, [Jéssica Ferreira Rodrigues](#)¹

Affiliation

- ¹ Department of Agrarian Sciences, Federal Institute of Minas Gerais, Bambuí, Brazil.
- PMID: [32659123](#)
- DOI: [10.1177/1082013220939792](#)

Abstract

Vegan and gluten-free markets have grown considerably in the last few years. Sustainability and the use of agro-industrial waste have also gained interest on food market. Thus, this study aimed to develop a vegan gluten-free *alfajor*, assessing the effect of different gluten-free flours (peanut okara (a by-product), sorghum, and rice flours) on the product sensory profile, and its market appeal. A simplex centroid design was applied to optimize the *alfajor* formulation. Check All That Apply and acceptance tests were performed. The use of different flours and their mixtures generated products with different texture attributes. All formulations obtained good acceptances, but higher concentrations of peanut okara and sorghum flours contributed to produce softer *alfajors*, considered as preferred by consumers. Therefore, it was possible to develop a gluten-free *alfajor* with sensory quality adding value to an agroindustrial by-product.

Keywords: By-products; peanut okara; product development; sorghum; vegan.

Full text links



27. [Primary immunodeficiencies, autoimmune hyperthyroidism, coeliac disease and systemic lupus erythematosus in childhood immune thrombocytopenia](#)

Acta Paediatr. 2021 Feb;110(2):643-651. doi: 10.1111/apa.15593. Epub 2020 Oct 13.

Authors

[Francesco Saettini](#)¹, [Alessandro Cattoni](#)², [Martina Redaelli](#)¹, [Daniela Silvestri](#)³, [Giulia Maria Ferrari](#)¹, [Andrea Biondi](#)^{1 2}, [Momcilo Jankovic](#)¹, [Marco Spinelli](#)¹

Affiliations

- ¹ Department of Pediatric Onco-Hematology, San Gerardo Hospital, Fondazione MBBM, Università degli Studi di Milano-Bicocca, Monza, Italy.
- ² Department of Pediatrics, San Gerardo Hospital, Fondazione MBBM, Università degli Studi di Milano-Bicocca, Monza, Italy.
- ³ Department of Pediatrics, San Gerardo Hospital, Fondazione Tettamanti, Università degli Studi di Milano-Bicocca, Monza, Italy.
- PMID: [33025591](#)
- DOI: [10.1111/apa.15593](#)

Abstract

Aim: To evaluate the cumulative prevalence of coeliac disease, systemic lupus erythematosus, autoimmune hyperthyroidism and primary immunodeficiencies in children with either newly diagnosed/persistent or chronic immune thrombocytopenia (ITP).

Methods: Monocentric retrospective analysis of the clinical and biochemical features of 330 consecutive patients with ITP referred to our Pediatric Hematology Unit between January 2009 and December 2018.

Results: The prevalence of systemic lupus erythematosus (0.3%), coeliac disease (0.3%) and autoimmune hyperthyroidism (0.6%) was not increased compared to general paediatric population. Of note, the prevalence of underlying primary immunodeficiencies was 2.4%, remarkably higher than the general paediatric population ($P = .005$). All the patients diagnosed with immunodeficiency developed either bi-/trilinear cytopenia or splenomegaly.

Conclusion: Whilst autoimmune and immunological screening is already recommended at the onset of immune thrombocytopenia, we recommend that primary immunodeficiencies be regularly screened during follow-up, especially in case of additional cytopenia or lymphoproliferation.

Keywords: ITP; autoimmune disease; children; primary immunodeficiencies.

©2020 Foundation Acta Paediatrica. Published by John Wiley & Sons Ltd.

- [39 references](#)

Full text links



28. [Inhibitory effects of sorbitol on the collapse and deterioration of gluten network in fresh noodles during storage](#)

Food Chem. 2021 May 15;344:128638. doi: 10.1016/j.foodchem.2020.128638. Epub 2020 Nov 23.

Authors

[Mengli Zhang](#)¹, [Lingtao Zhang](#)¹, [Man Li](#)², [Qingjie Sun](#)¹

Affiliations

- ¹ School of Food Science and Engineering, Qingdao Agricultural University, Qingdao 266109, Shandong Province, PR China.
- ² School of Food Science and Engineering, Qingdao Agricultural University, Qingdao 266109, Shandong Province, PR China. Electronic address: manliqau@163.com.
- PMID: [33248846](https://pubmed.ncbi.nlm.nih.gov/33248846/)
- DOI: [10.1016/j.foodchem.2020.128638](https://doi.org/10.1016/j.foodchem.2020.128638)

Abstract

In this paper, the inhibitory effects of sorbitol on the collapse of gluten network and textural deterioration of fresh noodles during storage were investigated, based on the changes in macroscopic and microscopic characteristics of gluten protein. Appropriate addition ($\leq 2\%$) of sorbitol increased dough viscoelasticity and extension energy. Sorbitol significantly inhibited the increase of cooking loss and adhesiveness of fresh noodles, and the decrease of hardness, springiness, LA-SRC value, and GMP weight during storage. SEM images showed that sorbitol retarded the deterioration of gluten network, with maintained continuous and ordered structure after 48 h. Sorbitol enhanced the hydrogen bond interactions in gluten system and promoted dynamic depolymerization and repolymerization of gluten protein molecules during processing and cooking, this may induce the texture stability. Sorbitol as a low-molecular polyol can inhibit the deterioration in gluten network and fresh noodle texture during storage, although showing no influence on the growth of microorganisms.

Keywords: Fresh noodle; Gluten collapse; Repolymerization; Sorbitol; Texture.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



29. [Assessment of arsenic distribution, bioaccessibility and speciation in rice](#)

utilizing continuous extraction and in vitro digestion

Food Chem. 2021 Jun 1;346:128969. doi: 10.1016/j.foodchem.2020.128969.
Epub 2020 Dec 31.

Authors

[Pengfei Wang](#)¹, [Naiyi Yin](#)¹, [Xiaolin Cai](#)¹, [Huili Du](#)¹, [Yaqi Fu](#)¹, [Ziqi Geng](#)¹, [Sharmin Sultana](#)¹, [Guoxin Sun](#)², [Yanshan Cui](#)³

Affiliations

- ¹ College of Resources and Environment, University of Chinese Academy of Sciences, Beijing 101408, China; Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China.
- ² Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China.
- ³ College of Resources and Environment, University of Chinese Academy of Sciences, Beijing 101408, China; Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China. Electronic address: cuiyanshan@ucas.ac.cn.
- PMID: [33422920](#)
- DOI: [10.1016/j.foodchem.2020.128969](https://doi.org/10.1016/j.foodchem.2020.128969)

Abstract

Rice, a staple food for half the world's population, easily accumulates arsenic (As). Research on As distribution in rice protein and starch and its relationship with rice As bioaccessibility remains limited. This study investigated As distribution, chemical composition, As bioaccessibility and speciation in rice by continuous extraction and in vitro digestion. Of the total As, 87.5-94.5% was in rice protein and 5.0-9.8% in rice starch. The As amount in different protein fractions decreased as follows: glutelin > globulin > albumin > prolamin. As(V), As(III) and DMA in rice were more bioaccessible in the small intestinal phase than the gastric phase, and almost all As(V) dissolved in the small intestinal

phase. Bioaccessible As in gastrointestinal digestive solution and As mass in protein fractions (albumin, globulin, and glutelin) were significantly positively correlated ($p < 0.05$). These results illuminate the bioaccessibility of As to humans consuming As-contaminated rice and avoid overassessment.

Keywords: Arsenic; Bioaccessibility; Distribution; Gut microbiota; Rice; Speciation.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



30. [Phosvitin-wheat gluten complex catalyzed by transglutaminase in the presence of Na₂SO₃: Formation, cross-link behavior and emulsifying properties](#)

Food Chem. 2021 Jun 1;346:128903. doi: 10.1016/j.foodchem.2020.128903.
Epub 2020 Dec 24.

Authors

[Lu Yang](#)¹, [Jie Jia](#)², [Xuefu Zhou](#)³, [Meichen Liu](#)⁴, [Qinjun Zhang](#)⁵, [Liangjie Tian](#)⁶, [Wen Tan](#)⁷, [YanJun Yang](#)⁸, [Xuebo Liu](#)⁹, [Xiang Duan](#)¹⁰

Affiliations

- ¹ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: yanglu1116@nwafu.edu.cn.
- ² College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: jiajili@nwafu.edu.cn.
- ³ Department of Food Science and Technology, Shanghai Jiao Tong University, Shanghai 200240, PR China. Electronic address: shiftzhou@sjtu.edu.com.
- ⁴ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: liumeichen@nwafu.edu.cn.

- ⁵ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: qinjunzhang1110@163.com.
- ⁶ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: tianlj8@163.com.
- ⁷ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: wentan@nwafu.edu.cn.
- ⁸ School of Food Science and Technology, Jiangnan University, Wuxi 214122, PR China. Electronic address: yangyi@jiangnan.edu.cn.
- ⁹ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: xueboliu@nwafu.edu.cn.
- ¹⁰ College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR China. Electronic address: duanxiang402@163.com.
- PMID: [33429299](https://pubmed.ncbi.nlm.nih.gov/33429299/)
- DOI: [10.1016/j.foodchem.2020.128903](https://doi.org/10.1016/j.foodchem.2020.128903)

Abstract

Phosvitin (PSV) is considered as a good emulsifier, although it has a low proportion of hydrophobic regions and steric hindrance. Wheat gluten (WG) possesses excellent hydrophobicity and macromolecular network structure. In this work, WG was subjected to a series of Na₂SO₃ solution, followed by cross-linking with PSV under transglutaminase (TGase) catalyzation. The results showed that Na₂SO₃ could break disulfide bonds of WG and increase its solubility from 7.33% to 42.82% with 1200 mg/L of Na₂SO₃. Correspondingly, the cross-linking degree was significantly enhanced. Compared to PSV, the cross-linked PSV-WG exhibited a higher surface hydrophobicity and thermal stability, with a lower zeta potential and apparent viscosity. The emulsifying activity of PSV-WG reached 17.42, 20.63 and 20.28 m²/g with Na₂SO₃ concentration of 300, 600 and 900 mg/L, which were all higher than that of PSV (15.19 m²/g). This work provided a novel strategy to elevate emulsifying properties of PSV by cross-link reaction.

Keywords: Cross-link; Emulsifying property; Phosvitin; Transglutaminase; Wheat gluten.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links

31. [Insight into the advantages of premixing yeast-wheat gluten and combining ultrasound and transglutaminase pretreatments in producing umami enzymatic protein hydrolysates](#)

Food Chem. 2021 Apr 16;342:128317. doi: 10.1016/j.foodchem.2020.128317.
Epub 2020 Oct 8.

Authors

[Guowan Su](#)¹, [Xin Zheng](#)¹, [Jin Zou](#)¹, [Geoffrey Ivan Neil Waterhouse](#)², [Dongxiao Sun-Waterhouse](#)³

Affiliations

- ¹ School of Food Science and Engineering, South China University of Technology, Guangzhou 510640, China; Guangdong Food Green Processing and Nutrition Regulation Technologies Research Center, Guangzhou 510650, China.
- ² School of Chemical Sciences, University of Auckland, Auckland 1142, New Zealand.
- ³ School of Food Science and Engineering, South China University of Technology, Guangzhou 510640, China; Guangdong Food Green Processing and Nutrition Regulation Technologies Research Center, Guangzhou 510650, China; School of Chemical Sciences, University of Auckland, Auckland 1142, New Zealand. Electronic address: dx.sun-waterhouse@auckland.ac.nz.
- PMID: [33067038](#)
- DOI: [10.1016/j.foodchem.2020.128317](https://doi.org/10.1016/j.foodchem.2020.128317)

Abstract

This study aimed to utilize effectively industrial byproducts, yeast suspension (Y) and wheat gluten (W), to produce umami protein hydrolysates as seasonings. Y and W were mixed to yield YW, followed by a pretreatment (ultrasound, transglutaminase (TG), or their combination) and then proteolysis with a yeast extract enzyme and trypsin. Premixing Y and W promoted their dispersibility, and suppressed gluten aggregation and hydrolysate's bitterness. All pretreatments increased protein recovery. Ultrasound alone or ultrasound with TG increased the embedding of yeasts in W, umami and salty tastes, hydrolysis degree and proportion of molecules < 3 kDa of the YW hydrolysate. For the first time, premixing Y and W, and pretreating YW (by ultrasound then TG-catalyzed protein crosslinking), were found to increase the β -sheet and random coil contents and decreased the β -turn content and surface hydrophobicity, leading to a low-cost umami and non-bitter protein hydrolysate with 56% of species < 1 kDa.

Keywords: Byproduct utilization; Enzymatic crosslinking; Proteolysis; Seasoning; Secondary structure.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



32. [Recanalization and Stenting of the Celiac and the Superior Mesenteric Artery Supported by Use of a Steerable Introducer Sheath: Report on 2 Years' Experience](#)

Vasc Endovascular Surg. 2021 Feb;55(2):158-163. doi: 10.1177/1538574420975264. Epub 2020 Nov 20.

Authors

[Federico Pedersoli](#)¹, [Lea Hitpass](#)¹, [Peter Isfort](#)¹, [Markus Zimmermann](#)¹, [Maximilian Schulze-Hagen](#)¹, [Alexander Gombert](#)², [Christiane K Kuhl](#)¹, [Philipp Bruners](#)¹, [Sebastian Keil](#)¹

Affiliations

- ¹ Department of Diagnostic and Interventional Radiology, 39058RWTH University Hospital Aachen, Aachen, Germany.
- ² Department of Vascular Surgery, 39058RWTH University Hospital Aachen, Aachen, Germany.
- PMID: [33213286](#)
- DOI: [10.1177/1538574420975264](#)

Abstract

Purpose: To compare technical parameters and success of recanalization of celiac (CA) or superior mesenteric artery (SMA) with usage of steerable vs not steerable introducer sheaths.

Methods: A retrospective analysis was performed on all consecutive patients who underwent recanalization with stent implantation of CA or SMA between 2015 and 2019. Data regarding technical success (successful stent placement with restoration of sufficient blood flow by the first attempt without changing kind of introducer sheath or access site), indication for treatment, vascular access, kind of introducer sheath, fluoroscopy time and radiation dose were collected. Preinterventional CT were analyzed to classify the difficulty of catheterization of target vessels. Technical parameters were compared with independent t-test ($p \leq 0.05$).

Results: 66 patients underwent recanalization of CA or SMA. Usage of steerable introducer sheaths was associated with higher technical success compared to not steerable introducer sheaths with transfemoral approach respectively of 8/8 vs 15/19 for the CA and 11/11 vs 17/20 for the SMA. Steerable introducer sheaths were used in recanalization considered more technically difficult compared to not steerable introducer sheaths (58% vs 33%). Usage of steerable introducer sheath showed a statistically significant reduction of radiation dose in the recanalization of the SMA (respectively 32035 ± 15716 cGy cm² vs 60102 ± 28432 cGy cm²; $p = 0.005$).

Conclusion: Even if used in more difficult interventions, steerable introducer sheaths showed a higher technical success compared to not steerable introducer sheaths with transfemoral access.

Keywords: celiac artery; endovascular procedures; stents; superior mesenteric artery.

Full text links



33. [Proteomic analysis of wheat seeds produced under different nitrogen levels before and after germination](#)

Food Chem. 2021 Mar 15;340:127937. doi: 10.1016/j.foodchem.2020.127937. Epub 2020 Aug 25.

Authors

[Daxing Wen](#)¹, [Haicheng Xu](#)², [Mingrong He](#)³, [Chunqing Zhang](#)⁴

Affiliations

- ¹ State Key Laboratory of Crop Biology, Agronomy College, Shandong Agricultural University, Tai'an, Shandong Province 271018, PR China. Electronic address: dxwen@sdaa.edu.cn.
- ² State Key Laboratory of Crop Biology, Agronomy College, Shandong Agricultural University, Tai'an, Shandong Province 271018, PR China.
- ³ State Key Laboratory of Crop Biology, Agronomy College, Shandong Agricultural University, Tai'an, Shandong Province 271018, PR China. Electronic address: mrhe@sdaa.edu.cn.
- ⁴ State Key Laboratory of Crop Biology, Agronomy College, Shandong Agricultural University, Tai'an, Shandong Province 271018, PR China. Electronic address: cqzhang@sdaa.edu.cn.
- PMID: [32889215](#)
- DOI: [10.1016/j.foodchem.2020.127937](https://doi.org/10.1016/j.foodchem.2020.127937)

Abstract

The objective of this study was to investigate differentially abundant proteins (DAPs) of wheat seeds produced under two nitrogen levels (0 and 240 kg/ha) before and after germination. We selected samples at 8 and 72 h after imbibition (HAI) to identify DAPs by iTRAQ. The results showed 190 and 124 DAPs at 8 and 72 HAI, respectively. Alpha-gliadin and chlorophyll a-b binding protein showed the biggest difference in abundance before and after germination. In GO enrichment analysis, the most significantly enriched GO term was nutrient reservoir activity at 8 HAI and endopeptidase inhibitor activity at 72 HAI. Moreover, many DAPs involved in mobilization of stored nutrients and photosynthesis were mapped to KEGG pathways. Dough development time, dough stability time and seedling chlorophyll content under N240 were significantly higher than those under N0, which validated the results of proteomic analysis. These results are crucial for food nutrition and food processing.

Keywords: Food processing; Germination; Nitrogen level; Proteomic analysis; Wheat seeds.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



34. [Effects of salt and kansui on rheological, chemical and structural properties of noodle dough during repeated sheeting process](#)

Food Chem. 2021 Apr 16;342:128365. doi: 10.1016/j.foodchem.2020.128365. Epub 2020 Oct 14.

Authors

[Chong Liu](#)¹, [Mengkun Song](#)², [Jing Hong](#)², [Limin Li](#)², [Xueling Zheng](#)³, [Ke Bian](#)², [Erqi Guan](#)²

Affiliations

- ¹ College of Grain, Oil and Food Science, Henan University of Technology, Zhengzhou 450001, PR China. Electronic address: liuachong@haut.edu.cn.
- ² College of Grain, Oil and Food Science, Henan University of Technology, Zhengzhou 450001, PR China.
- ³ College of Grain, Oil and Food Science, Henan University of Technology, Zhengzhou 450001, PR China. Electronic address: xuelingzheng@haut.edu.cn.
- PMID: [33092923](https://pubmed.ncbi.nlm.nih.gov/33092923/)
- DOI: [10.1016/j.foodchem.2020.128365](https://doi.org/10.1016/j.foodchem.2020.128365)

Abstract

Effects of different levels of salt (1-2%, fwb) and kansui (0.5-1%) on the rheological, chemical and structural characteristics of noodle dough developed by repeated sheeting were studied. The rupture stress was increased by salt and kansui. The rupture elongation was increased by salt while reduced by kansui. The rupture stress and elongation increased to a maximum at 3 or 4 sheeting passes then decreased. The larger polymeric glutenin (LPP) increased while glutenin macropolymer (GMP) and free SH contents declined with the increased sheeting passes except for the dough contained 1% kansui at which these indicators remained constant. The β -sheet was increased while the β -turn was decreased by salt and kansui. The results showed the LPP disaggregated from GMP through physical disentanglement and experienced a reaggregation process with the SS bonds participate in, but the addition of kansui especially at 1% concentration could inhibit the disaggregation of GMP through protein cross-linking.

Keywords: Glutenin; Kansui; Noodle dough; Rheology; Salt; Sheeting.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



35. **Effect of degree of milling and defatting on proximate composition, functional and texture characteristics of gluten-free muffin of bran of long-grain indica rice cultivars**

Food Chem. 2021 May 30;345:128861. doi: 10.1016/j.foodchem.2020.128861.
Epub 2020 Dec 11.

Authors

[Amandeep Kaur](#)¹, [Amardeep Singh Viridi](#)¹, [Narpinder Singh](#)¹, [Amandeep Singh](#)¹, [Raj Sukhwinder Singh Kaler](#)²

Affiliations

- ¹ Department of Food Science and Technology, Guru Nanak Dev University, Amritsar, India.
- ² Department of Food Science and Technology, Guru Nanak Dev University, Amritsar, India. Electronic address: rsskaler@yahoo.com.
- PMID: [33348134](#)
- DOI: [10.1016/j.foodchem.2020.128861](#)

Abstract

Effect of different degrees of milling (DoM: 2%, 4%, 6% and 8%) and defatting on the proximate composition, protein characteristics, functional properties of bran of long grain rice cultivars and texture characteristics of bran (RB) supplemented muffins were evaluated. Protein, ash content, redness and yellowness increased while fat content decreased for RB by extended DoM and defatting. A higher proportion of β sheets, random coils, α -helix and β -turns for all fractions of RB of both cultivars after defatting were also observed. Defatting and extended DoM both improved the essential amino acid content in RB. A higher level of prolamines (15-18 kDa) in RB and DF-RB of PUSA1121 than PR111 was observed. Muffins made from 2% DoM bran from

PUSA1121 showed improved texture characteristics and achieved the highest score for sensory attributes. Therefore, DoM and defatting improved the proximate, protein profiling, and functionality of the different fraction of RB.

Keywords: Amino acid composition; FTIR analysis; Muffins; Protein profiling; Proximate composition; Rice bran.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



36. [Gut microbiota signatures and clinical manifestations in celiac disease children at onset: a pilot study](#)

J Gastroenterol Hepatol. 2021 Feb;36(2):446-454. doi: 10.1111/jgh.15183.
Epub 2020 Aug 5.

Authors

[Anna Rita Di Biase](#)¹, [Giovanni Marasco](#)², [Federico Ravaioli](#)², [Elton Dajti](#)², [Luigi Colecchia](#)²,
[Beatrice Righi](#)¹, [Virginia D'Amico](#)¹, [Davide Festi](#)², [Lorenzo Iughetti](#)¹, [Antonio Colecchia](#)³

Affiliations

- ¹ Pediatric Unit, Modena University Hospital, Modena, Italy.
- ² Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy.
- ³ Gastroenterology Unit, University Hospital Borgo Trento, Verona, Italy.
- PMID: [32666516](#)
- DOI: [10.1111/jgh.15183](#)

Abstract

Background and aim: Recent researches have shown an altered gut microbiota in celiac disease (CD) patients compared with healthy controls

(HCs). This study aims to evaluate the composition of the microbiota of CD children at onset and the relationship between bacterial abundances and symptoms.

Methods: Celiac disease patients were consecutively enrolled at a pediatric unit referring for suspected CD. HCs were also included in the study. Stool and duodenal samples were collected and evaluated by a high taxonomic fingerprint microbiota array.

Results: Thirty-seven subjects enrolled: 21 CD patients and 16 HCs. Fourteen subjects were male (38%). The mean age was 75 months (standard deviation 31.5) for CD patients and 71 months (standard deviation 34.9) for HCs. Duodenal microbiota of CD patients showed a dominance of Enterobacteriaceae and subdominance of Bacteroidetes/Streptococcus. Stool microbiota showed a lower abundance of Bacteroides-Prevotella ($P = 0.013$), Akkermansia ($P = 0.002$), and Staphylococcaceae ($P = 0.001$) in CD patients compared with HC. At symptoms level, an increased mean relative abundance of Bacillaceae and Enterobacteriaceae in patients with abdominal pain ($P = 0.007$ and $P = 0.010$) was found. CD patients with diarrhea had reduced mean relative abundance of Clostridium cluster XIVa ($P = 0.044$) and Akkermansia ($P = 0.033$) and an increase in Bacillaceae ($P = 0.048$) and Fusobacterium ($P = 0.048$).

Conclusions: Gut microbiota of CD children at disease onset is different from that of HC. Pro-inflammatory microbiota imbalances were associated with CD symptoms. Further studies are needed to assess whether dysbiosis is associated with CD early onset and symptoms.

Keywords: Akkermansia; diarrhea; duodenal microbiota; stool microbiota.

© 2020 Journal of Gastroenterology and Hepatology Foundation and John Wiley & Sons Australia, Ltd.

- [Cited by 3 articles](#)
- [50 references](#)

Full text links



37. **Celiac disease screening in children and adolescents with type1 diabetes mellitus: What test should be performed?**

Endocrinol Diabetes Nutr. 2021 Mar;68(3):153-158. doi: 10.1016/j.endinu.2020.03.007. Epub 2020 Jun 30.
[Article in English, Spanish]

Authors

[M Belén Roldán Martín](#)¹, [Corina Márquez Romero](#)², [Enrique Guerra Vilches](#)², [Juan Ruiz Usabiaga](#)³, [Raquel Barrio Castellanos](#)⁴, [María Martín Frías](#)⁴, [David Plaza Oliver](#)², [Cristina Camarero Salces](#)⁵

Affiliations

- ¹ Unidad de Endocrinología y Diabetes, Servicio de Pediatría, Hospital Universitario Ramón y Cajal. Departamento de Medicina y Especialidades Médicas, Facultad de Medicina, Universidad de Alcalá, IRYCIS, Madrid, España. Electronic address: mbelen.rolan@salud.madrid.org.
- ² Servicio de Pediatría, Hospital Universitario Ramón y Cajal, IRYCIS, Madrid, España.
- ³ Servicio de Atención al Paciente, Hospital Universitario Ramón y Cajal, IRYCIS, Madrid, España.
- ⁴ Unidad de Endocrinología y Diabetes, Servicio de Pediatría, Hospital Universitario Ramón y Cajal, IRYCIS, Madrid, España.
- ⁵ Unidad de Gastroenterología, Servicio de Pediatría, Hospital Universitario Ramón y Cajal. Departamento de Medicina y Especialidades Médicas, Facultad de Medicina, Universidad de Alcalá, IRYCIS, Madrid, España.
- PMID: [32620518](#)
- DOI: [10.1016/j.endinu.2020.03.007](#)

Abstract

Introduction: Children and adolescents with type1 diabetes mellitus (T1DM) are at high risk for the development of celiac disease (CD) because of the

common genetic characteristics of both conditions. The study objectives were to investigate the frequency of the human leukocyte antigen system (HLA) for CD in pediatric T1DM patients and to determine whether HLA testing is suitable for CD screening in that population and is cost-effective as compared to serological screening for CD.

Patients and methods: A retrospective, descriptive study was conducted in 296 patients (148 girls; 148 boys) with T1DM aged <18years who attended a hospital in Madrid. Data on the frequency of genotypes DQ2/DQ8 in a subgroup of 92 patients and the additional cost of performing HLA typing for screening CD were collected. Only when the risk HLA haplotype (DQ2/DQ8) is negative no further serological screening for CD is required.

Results: Twenty-three patients with T1DM (7.77%) also had CD. Alleles DQ2 or DQ8 were found in 91.3% of patients in whom the HLA haplotype was studied. Thus, only 8.7% with a negative haplotype would have benefited from HLA testing. The additional cost of HLA typing was €105.2 for each patient with positive DQ2 or DQ8 in our population.

Conclusions: HLA typing is not a cost-effective screening method for CD in T1DM because of the frequent association of T1DM with risk genotypes for CD.

Keywords: Anticuerpos anti-transglutaminasa; Celiac disease; Diabetes mellitus tipo1; Enfermedad celiaca; Human leukocyte antigens; Sistema de histocompatibilidad de antígenos leucocitarios humanos; Transglutaminase antibodies; Type 1 diabetes mellitus.

Copyright © 2020 SEEN y SED. Publicado por Elsevier España, S.L.U. All rights reserved.

Full text links



38. [Structural, gelation properties and microstructure of rice glutelin/sugar beet](#)

pectin composite gels: Effects of ionic strengths

Food Chem. 2021 Jun 1;346:128956. doi: 10.1016/j.foodchem.2020.128956.
Epub 2020 Dec 29.

Authors

[Ya-Ru Wang](#)¹, [Qin Yang](#)¹, [Yi-Jing Li-Sha](#)¹, [Han-Qing Chen](#)²

Affiliations

- ¹ Engineering Research Center of Bio-process, Ministry of Education, Hefei University of Technology, 420 Feicui Road, Hefei, Anhui 230601, PR China; School of Food and Biological Engineering, Hefei University of Technology, 420 Feicui Road, Hefei, Anhui 230601, PR China.
- ² Engineering Research Center of Bio-process, Ministry of Education, Hefei University of Technology, 420 Feicui Road, Hefei, Anhui 230601, PR China; School of Food and Biological Engineering, Hefei University of Technology, 420 Feicui Road, Hefei, Anhui 230601, PR China. Electronic address: hangqchen@hfut.edu.cn.
- PMID: [33418414](#)
- DOI: [10.1016/j.foodchem.2020.128956](https://doi.org/10.1016/j.foodchem.2020.128956)

Abstract

In this study, the rice glutelin (RG)/sugar beet pectin (SBP) composite gels were prepared by laccase induced cross-linking and subsequent heat treatment, and the effects of different calcium ion concentrations (0-400 mM) on the gelation, structural properties and microstructure of the RG/SBP composite gels were investigated. The results showed that the addition of 200 mM calcium ion could improve the rheological, textural properties and water holding capacity of the RG/SBP composite gels. The addition of SBP and calcium ions enhanced the hydrophobic interaction between RG molecules, thereby increased the gel properties of RG. The changes in Raman spectroscopy reflected the positive effect of the addition of SBP and calcium ions on the formation of a denser and more homogeneous protein gel, as

evidenced by the results of scanning electron microscopy. Overall, SBP and calcium ions could be applied to the plant protein gel systems as gel-strengthening agents.

Keywords: Calcium ions; Gelation properties; Laccase; Raman spectra; Rice glutelin; Sugar beet pectin.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



39. [A prediction model of sepsis-associated acute kidney injury based on antithrombin III](#)

Clin Exp Med. 2021 Feb;21(1):89-100. doi: 10.1007/s10238-020-00656-x. Epub 2020 Aug 31.

Authors

[Yun Xie](#)^{# 1}, [Yi Zhang](#)^{# 2}, [Rui Tian](#)^{# 1}, [Wei Jin](#)¹, [Jiang Du](#)¹, [Zhigang Zhou](#)¹, [Ruilan Wang](#)³

Affiliations

- ¹ Department of Critical Care Medicine, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine, 650 New Songjiang Road, Songjiang, 201600, Shanghai, People's Republic of China.
- ² Department of Rheumatology, The Second Affiliated Hospital of Soochow University, Suzhou, China.
- ³ Department of Critical Care Medicine, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine, 650 New Songjiang Road, Songjiang, 201600, Shanghai, People's Republic of China.
wangyusun@hotmail.com.

Contributed equally.

- PMID: [32865720](#)

- DOI: [10.1007/s10238-020-00656-x](https://doi.org/10.1007/s10238-020-00656-x)

Abstract

The incidence of sepsis-associated acute kidney injury (AKI) is on the rise. Recent studies have found a correlation between antithrombin III and AKI. We established a predictive model for sepsis-associated AKI based on plasma ATIII levels. A prospective study (March 2018-January 2020) was conducted in sepsis patients admitted to the Critical Care Medicine Department at Shanghai General Hospital. ATIII levels were obtained within 48 h after admission to the ICU and before the diagnosis of sepsis-associated AKI was recorded. Renal function was assessed by measuring serum creatinine levels and urine volume. Male sex, other cardiovascular disease, and low ATIII levels were identified as independent risk factors for AKI. Age, immune disease, and low ATIII levels were identified as independent risk factors for death. Plasma ATIII levels in the non-AKI group were higher than those in the AKI group, plasma ATIII levels were higher in the survival group than in the non-survival group, plasma ATIII levels in the non-CRRT group were higher than those in the CRRT group, and plasma ATIII levels in the non-CKD group were higher than those in the CKD group. ATIII was significantly higher in the group with pulmonary infection than in the group without pulmonary infection. ATIII was significantly lower in the celiac infection group than in the nonceliac infection group. There was no statistically significant difference between the ATIII in the gram-positive group and the gram-negative group. ATIII was significantly higher in medical patients than in surgical patients. The predictive model of sepsis-associated AKI established based on ATIII was $\ln[P/(1 - p)] = -1.211 \times \text{sex} - 0.017 \times \text{ATIII} + 0.022 \times \text{Cr} + 0.004 \times \text{BUN} - 2.8192$. The model goodness-of-fit test ($p = 0.000$) and the area under the ROC curve of the model (0.9862) suggested that the model has a high degree of discrimination and calibration. ATIII reduction was closely related to the prognosis of patients with sepsis. ATIII reduction was an independent risk factor for sepsis-associated AKI and an independent risk factor for mortality in patients with sepsis. ATIII reduction could predict sepsis-associated AKI. Low ATIII predicted a poor prognosis.

Keywords: Acute kidney injury; Antithrombin III; Sepsis.

- [38 references](#)

Full text links

40. **Development and effectiveness assessment of a Persian-language smartphone application for celiac patients: A randomized controlled clinical trial**

Patient Educ Couns. 2021 Feb;104(2):337-342. doi: 10.1016/j.pec.2020.08.014. Epub 2020 Aug 18.

Authors

[Zeinab Nikniaz](#)¹, [Masood Shirmohammadi](#)¹, [Zahra Akbari Namvar](#)²

Affiliations

- ¹ Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.
- ² Student Research Committee, Tabriz University of Medical Sciences, Daneshgah Street, Tabriz, Iran. Electronic address: zahranamvar1993@gmail.com.
- PMID: [32843265](#)
- DOI: [10.1016/j.pec.2020.08.014](https://doi.org/10.1016/j.pec.2020.08.014)

Abstract

Objectives: We aimed to design a Persian-language application for celiac patients and assess its effectiveness on patients' knowledge and adherence to a gluten-free diet (GFD).

Methods: In the present randomized controlled clinical trial, 60 patients were randomly assigned to receive education through a smartphone application (n = 30) or conventional clinical education (n = 30). The primary outcomes were assessing knowledge about celiac disease and GFD, and adherence to GFD that were assessed at baseline and three months after interventions. The knowledge and adherence were assessed by a valid author-designed

knowledge questionnaire and the validated celiac disease adherence test (CDAT) respectively.

Results: The mean disease duration was 4.38 ± 3.27 years. The mean post-intervention score of knowledge about gluten-free foods was significantly higher in the intervention group compared with the placebo group after adjusting for baseline values and characteristics (p-value = 0.03). There was a significant difference in post-intervention CDAT values between the two groups (p-value = 0.01).

Conclusion: The smartphone application had a significant effect on celiac patients' knowledge about gluten-free foods and adherence to GFD.

Practice implications: The smartphone applications can be designed according to each country's particular circumstances and can be suggested by nutritionists and physicians to use by celiac patients.

Keywords: Adherence; Celiac disease; Education; Gluten-free diet; Knowledge; Smartphone application.

Copyright © 2020 Elsevier B.V. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors declare no conflict of interest

Full text links



41. [Exploiting the potential of Sudanese sorghum landraces in biofortification: Physicochemical quality of the grain of sorghum \(*Sorghum bicolor* L. Moench\) landraces](#)

Food Chem. 2021 Feb 1;337:127604. doi: 10.1016/j.foodchem.2020.127604.
Epub 2020 Aug 2.

Authors

[Tilal Sayed Abdelhalim](#)¹, [Nuha Sayed Abdelhalim](#)², [Nasrein Mohamed Kamal](#)³, [Essa Esmail Mohamed](#)², [Amro B Hassan](#)⁴

Affiliations

- ¹ White Nile Research Station, Agricultural Research Corporation, P.O. Box: 300, Kosti, Sudan; Biotechnology and Biosafety Research Center, Agricultural Research Corporation, Shambat, Khartoum North, Sudan.
- ² Faculty of Science, Sudan University of Sciences and Technology, Khartoum, Sudan.
- ³ Biotechnology and Biosafety Research Center, Agricultural Research Corporation, Shambat, Khartoum North, Sudan; Arid Land Research Center, Tottori University, Tottori, Japan.
- ⁴ Department of Food Science and Nutrition, College of Food and Agricultural Sciences, King Saud University, P.O. Box 2460, Riyadh 11451, Saudi Arabia. Electronic address: ahassan2ks.c@ksu.edu.sa.
- PMID: [32777562](#)
- DOI: [10.1016/j.foodchem.2020.127604](https://doi.org/10.1016/j.foodchem.2020.127604)

Abstract

This study aimed to describe the phytonutrients and antioxidant activity, protein content, in vitro protein digestibility (IVPD), protein fraction, and bioavailability of Fe and Zn in the grains of five sorghum landraces grown in Sudan. The results showed significant differences in all quality tests among the landraces. The Tetron landrace showed the highest percentage of crude protein and IVPD among the landraces. Additionally, most of the landrace grains had high contents of Fe and Zn with a high rate of bioavailability. The Kolom 4055 and Wad akar exhibited significantly higher total phenolic contents, with antioxidant activity of 79.3% and 83.4%, respectively. The glutelin content was relatively higher compared to the other fractions, irrespective of sorghum landraces. The principal components cumulatively accounted for 89.3% of the total variation among the five sorghum landraces.

It can be concluded that these landraces could be used in the improvement of new value-added crops using the by-products of sorghum grains.

Keywords: Bioavailability; Grains; Landraces; Micronutrients; Phytonutrients; Sorghum.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Full text links



42. [Evaluation of heat stress through delayed sowing on physicochemical and functional characteristics of grains, whole meals and flours of India wheat](#)

Food Chem. 2021 May 15;344:128725. doi: 10.1016/j.foodchem.2020.128725. Epub 2020 Nov 27.

Authors

[Narpinder Singh](#)¹, [Amardeep Singh Viridi](#)², [Mehak Katyal](#)², [Amritpal Kaur](#)², [Deepinder Kaur](#)², [Arvind Kumar Ahlawat](#)³, [Anju Mahendru Singh](#)³, [Ram Kumar Sharma](#)³

Affiliations

- ¹ Department of Food Science and Technology, Guru Nanak Dev University, Amritsar 143005, India. Electronic address: narpinders@yahoo.com.
- ² Department of Food Science and Technology, Guru Nanak Dev University, Amritsar 143005, India.

- ³ Division of Genetics, Indian Agricultural Research Institute, New Delhi 110012, India.
- PMID: [33279352](#)
- DOI: [10.1016/j.foodchem.2020.128725](#)

Abstract

The physicochemical and functional characteristics of grain, meal and flour of timely sown wheat (TSW) and delayed sown wheat (DSW) were compared to see the effects of heat stress (HS). TSW and DSW of different lines were sown as per the approved timings. DSW experienced higher temperature during flowering and had shorter vegetative and maturation period than TSW. Pasting and dough rheological properties were measured using Rapid Visco-Analyser and Farinograph, respectively, while gliadins and glutenins profiling was done by SDS-PAGE. Delayed sowing decreased grain yield and diameter while increased protein and all categories of gliadins and high molecular weight glutenins. DSW showed higher peak viscosity, breakdown-viscosity and dough stability and lower setback viscosity, damaged starch, arabinoxylans and water absorption than TSW. HS in DSW appeared to lower starch synthesis causing proportionate increase in grain hardness and proteins content leading to changes in milling and rheological characteristics.

Keywords: Farinograph; Flour; Gluten; Grain hardness; Meal; Pasting; SDS-PAGE; Solvent retention capacity.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



43. [The Risk of Contracting COVID-19 Is Not Increased in Patients With Celiac Disease](#)

Clin Gastroenterol Hepatol. 2021 Feb;19(2):391-393. doi: 10.1016/j.cgh.2020.10.009. Epub 2020 Oct 12.

Authors

[Jamie Zhen](#)¹, [Juan Pablo Stefanolo](#)², [Maria de la Paz Temprano](#)², [Sebastian Tedesco](#)¹, [Caroline Seiler](#)¹, [Alberto Fernandez Caminero](#)¹, [Enrique de-Madaria](#)³, [Miguel Montoro Huguet](#)⁴, [Santiago Vivas](#)⁵, [Sonia Isabel Niveloni](#)², [Premysl Bercik](#)¹, [Edgardo Smecuol](#)², [Luis Uscanga](#)⁶, [Elena Trucco](#)⁷, [Virginia Lopez](#)⁷, [Carolina Olano](#)⁷, [Pasquale Mansueto](#)⁸, [Antonio Carroccio](#)⁸, [Peter H R Green](#)⁹, [Andrew Day](#)¹⁰, [Jason Tye-Din](#)¹¹, [Julio Cesar Bai](#)², [Carolina Ciacchi](#)¹², [Elena F Verdu](#)¹, [Benjamin Lebwohl](#)⁹, [Maria Ines Pinto-Sanchez](#)¹³

Affiliations

- ¹ Farncombe Family Digestive Health Research Institute, McMaster University Medical Center, Hamilton Health Sciences, Hamilton, Ontario, Canada.
- ² Hospital Dr C B Udaondo, Buenos Aires, Argentina.
- ³ Alicante University General Hospital, Alicante, Spain.
- ⁴ Instituto Aragonés de Ciencias de la Salud, Zaragoza, Spain; Hospital Universitario San Jorge, Huesca, Spain.
- ⁵ University Hospital of León, Leon, Spain.
- ⁶ Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico.
- ⁷ Universidad de la Republica, Montevideo, Uruguay.
- ⁸ University of Palermo, Palermo, Italy.
- ⁹ Columbia University, New York, New York.
- ¹⁰ Department of Paediatrics, University of Otago Christchurch, Christchurch, New Zealand.
- ¹¹ Walter and Eliza Hall Institute and University of Melbourne, Melbourne, Australia.
- ¹² Università degli Studi di Salerno, Salerno, Italy.
- ¹³ Farncombe Family Digestive Health Research Institute, McMaster University Medical Center, Hamilton Health Sciences, Hamilton, Ontario, Canada. Electronic address: pintosm@mcmaster.ca.
- PMID: [33059041](#)
- PMCID: [PMC7548761](#)
- DOI: [10.1016/j.jcgh.2020.10.009](#)

Free PMC article

Abstract

The World Health Organization declared coronavirus disease-2019 (COVID-19) a global pandemic in March 2020. Since then, there are more than 34 million cases of COVID-19 leading to more than 1 million deaths worldwide.

Numerous studies suggest that celiac disease (CeD), a chronic immune-mediated gastrointestinal condition triggered by gluten, is associated with an increased risk of respiratory infections.¹⁻³ However, how it relates to the risk of COVID-19 is unknown. To address this gap, we conducted a cross-sectional study to evaluate whether patients with self-reported CeD are at an increased risk of contracting COVID-19.

Copyright © 2021 AGA Institute. Published by Elsevier Inc. All rights reserved.

- [Cited by 3 articles](#)
- [8 references](#)

Full text links



44. [The kiwifruit enzyme actinidin enhances the hydrolysis of gluten proteins during simulated gastrointestinal digestion](#)

Food Chem. 2021 Mar 30;341(Pt 1):128239. doi: 10.1016/j.foodchem.2020.128239. Epub 2020 Oct 1.

Authors

[Isuri A Jayawardana](#)¹, [Mike J Boland](#)², [Keriane Higgs](#)², [Maggie Zou](#)¹, [Trevor Loo](#)³, [Warren C McNabb](#)², [Carlos A Montoya](#)⁴

Affiliations

- ¹ School of Food and Advanced Technology, College of Sciences, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand; Riddet Institute, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand.

- ² Riddet Institute, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand.
- ³ School of Fundamental Sciences, College of Sciences, Massey University, Palmerston North 4442, New Zealand.
- ⁴ Riddet Institute, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand; Food Nutrition & Health Team, AgResearch Limited, Grasslands Research Centre, Private Bag 11008, Palmerston North 4442, New Zealand. Electronic address: carlos.montoya@agresearch.co.nz.
- PMID: [33035854](#)
- DOI: [10.1016/j.foodchem.2020.128239](#)

Abstract

This study investigated the effect of actinidin, a cysteine protease in kiwifruit, on the hydrolysis of gluten proteins and digestion-resistant gluten peptides (synthetic 33-mer peptide and pentapeptide epitopes) under static simulated gastrointestinal conditions. Actinidin efficacy in hydrolysing gliadin was compared with that of other gluten-degrading enzymes. Actinidin hydrolysed usually resistant peptide bonds adjacent to proline residues in the 33-mer peptide. The gastric degree of hydrolysis of gluten proteins was influenced by an interaction between pH and actinidin concentration ($P < 0.05$), whereas the pentapeptide epitopes hydrolysis was influenced only by the actinidin concentration ($P < 0.05$). The rate of gastric degree of hydrolysis of gliadin was greater ($P < 0.05$) by actinidin (0.8%/min) when compared to papain, bromelain, and one commercial enzyme (on average 0.4%/min), while all exogenous enzymes were able to hydrolyse the pentapeptide epitopes effectively. Actinidin is able to hydrolyse gluten proteins under simulated gastric conditions.

Keywords: Actinidin; Gastrointestinal tract; Gliadin; Gluten; Hydrolysis.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



45. **Influence of ϵ -poly-l-lysine treated yeast on gluten polymerization and freeze-thaw tolerance of frozen dough**

Food Chem. 2021 May 1;343:128440. doi: 10.1016/j.foodchem.2020.128440.
Epub 2020 Oct 21.

Authors

[Lu Lu](#)¹, [Jun-Jie Xing](#)¹, [Zhen Yang](#)¹, [Xiao-Na Guo](#)¹, [Ke-Xue Zhu](#)²

Affiliations

- ¹ State Key Laboratory of Food Science and Technology, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, Jiangsu Province, PR China; School of Food Science and Technology, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, Jiangsu Province, PR China.
- ² State Key Laboratory of Food Science and Technology, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, Jiangsu Province, PR China; School of Food Science and Technology, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, Jiangsu Province, PR China. Electronic address: kxzh@jiangnan.edu.cn.
- PMID: [33127224](#)
- DOI: [10.1016/j.foodchem.2020.128440](https://doi.org/10.1016/j.foodchem.2020.128440)

Abstract

The effects of ϵ -poly-l-lysine (ϵ -PL) treated yeast on gluten polymerization of frozen dough and quality of steamed bread after freeze-thaw cycles were investigated. Compared with steamed bread made from frozen dough containing ϵ -PL and untreated yeast (PUTY) or only untreated yeast, steamed bread made from frozen dough containing ϵ -PL treated yeast (PTY) had a larger specific volume, lower hardness and more porous. A dynamic rheological and scanning electron microscopic analysis demonstrated that using PTY instead of yeast could reduce dough elasticity and damage protein network after freeze-thaw cycles. Lower sodium dodecyl sulfate (SDS) soluble polymeric proteins and monomeric proteins, and higher SDS insoluble

proteins were found in frozen dough containing PTY, which indicates a reduced depolymerization of gluten proteins after freeze-thaw cycles. After 4 freeze-thaw cycles, the lower glutathione and free sulfhydryl in dough containing PTY indicate that the interchain disulfide bonds between proteins were preserved.

Keywords: Freeze–thaw cycles; Frozen dough; Gluten polymerization; ϵ -Poly-l-lysine treated yeast.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



46. [Grain Products Are a Top Source of Energy and Nutrients among Nova Scotian Adults Following a Gluten-Free Diet](#)

Can J Diet Pract Res. 2021 Mar 1;82(1):21-26. doi: 10.3148/cjdpr-2020-023. Epub 2020 Sep 9.

Authors

[Jennifer A Jamieson PhD](#)^{1 1}, [Emily Rosta BSc](#)^{1 1}, [Laura Gougeon PhD, RD](#)^{1 1}

Affiliation

- ¹ Department of Human Nutrition, St. Francis Xavier University, Antigonish, NS.
- PMID: [32902303](#)
- DOI: [10.3148/cjdpr-2020-023](#)

Abstract

To determine the food sources of energy and 13 core nutrients, 89 diet recalls were analyzed from an explanatory mixed-methods pilot study with adults following a gluten-free diet (GFD) for any reason. Nonconsecutive dietary

recalls were collected through a web-based, Automated Self-Administered 24-Hour (ASA24[®]-Canada-2016) Tool. Mean nutrient intakes were compared with Dietary Reference Intakes. Food items (excluding supplements) were extracted and categorized according to the Bureau of Nutritional Sciences Food Group Codes. Percentages of total dietary intakes from food sources were ranked. Grain products were the highest ranked contributor of energy (21.4%), carbohydrate (30.3%), fibre (29.1%), and iron (35.3%). Breakfast cereals, hot cereals, yeast breads, and mixed grain dishes (mainly rice or pasta-based) were the most important nutrient contributors for grains, despite most (64.3%) commercial cereals and breads being unenriched. Legumes and seeds were not frequently consumed. Nutrient density in the GFD could be improved with more emphasis on gluten-free (GF) whole grains, legumes, seeds, and enriched breads and cereals. More research is needed on the nutrient composition of GF foods to identify food sources of folate, other B vitamins, zinc and magnesium-nutrients of concern for those requiring a GFD.

Full text links



47. [Improvement of gluten-free steamed bread quality by partial substitution of rice flour with powder of *Apios americana* tuber](#)

Food Chem. 2021 Feb 1;337:127977. doi: 10.1016/j.foodchem.2020.127977.
Epub 2020 Sep 5.

Authors

[Seiko Ito](#)¹, [Eiko Arai](#)²

Affiliations

- ¹ School of Food and Nutritional Sciences, University of Shizuoka, 52-1 Yada, Suruga-ku, Shizuoka 422-8526, Japan. Electronic address: iiseiko@u-shizuoka-ken.ac.jp.

- ² School of Food and Nutritional Sciences, University of Shizuoka, 52-1 Yada, Suruga-ku, Shizuoka 422-8526, Japan.
- PMID: [32919271](#)
- DOI: [10.1016/j.foodchem.2020.127977](#)

Abstract

This study investigated the effect of powder made from tubers of the legume *Apios americana* (Apios) as a rice flour substitute in the making of gluten-free steamed bread. The carbohydrates of Apios powder were mainly starch and sucrose, and included legume-specific raffinose and stachyose. Apios powder contained almost no α -amylase but had a high level of β -amylase activity. Substitution of rice flour with Apios powder delayed the hardening of bread on storage and helped to maintain cohesiveness. Apios powder-substituted bread had higher maltose content than unsubstituted control bread due to β -amylase activity in the Apios powder. Bread substituted with 10% Apios powder had a significantly higher degree of gelatinization than the control even after storage, most likely due to lower amounts of recrystallized amylose as determined by differential scanning calorimetry. These results demonstrate Apios powder as promising a new food ingredient for improving the quality of gluten-free rice bread.

Keywords: Apios; Gluten-free bread; Retrogradation; Starch; β -Amylase.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Full text links



48. **An updated overview on celiac disease:
from immuno-pathogenesis and immuno-
genetics to therapeutic implications**

Expert Rev Clin Immunol. 2021 Feb 5;1-16. doi:
10.1080/1744666X.2021.1880320. Online ahead of print.

Authors

[Paolo D'Avino](#)^{1 2 3 4}, [Gloria Serena](#)^{1 2 3 5}, [Victoria Kenyon](#)^{1 2 3 5}, [Alessio Fasano](#)^{1 2 3 5 6}

Affiliations

- ¹ Division of Pediatric Gastroenterology and Nutrition, Mass General Hospital for Children, Harvard Medical School , Boston, MA, USA.
- ² Mucosal Immunology and Biology Research Center, Mass General Hospital for Children, Harvard Medical School , Boston, MA, USA.
- ³ Celiac Research Program, Harvard Medical School , Boston, MA, USA.
- ⁴ Vita-Salute San Raffaele University , Milan, Italy.
- ⁵ Harvard Medical School , Boston, MA, USA.
- ⁶ European Biomedical Research Institute of Salerno (EBRIS) , Salerno, Italy.
- PMID: [33472447](#)
- DOI: [10.1080/1744666X.2021.1880320](#)

Abstract

Introduction: Celiac disease (CD) is an autoimmune enteropathy triggered by ingestion of gluten. While presenting many similarities with other autoimmune diseases, celiac disease is unique in that the external trigger, gluten, and the genetic background necessary for disease development (HLA DQ2/DQ8) are well described. The prevalence of celiac disease is dramatically increasing over the years and new epidemiologic data show changes regarding age of onset and symptoms. A better understanding of CD-pathogenesis is fundamental to highlight the reasons of this rise of celiac diagnoses.

Areas covered: In this review we describe CD-pathogenesis by dissecting all the components necessary to lose tolerance to gluten (ingestion of gluten, genetic predisposition, loss of barrier function and immune response). Additionally, we also highlight the role that microbiome plays in celiac disease as well as new proposed therapies and experimental tools.

Expert opinion: Prevalence of autoimmune diseases is increasing around the world. As a result, modern society is strongly impacted by a social and economic burden. Given the unique characteristics of celiac disease, a better understanding of its pathogenesis and the factors that contribute to it may shed light on other autoimmune diseases for which external trigger and genetic background are not known.

Keywords: Celiac disease; autoimmunity; barrier function; gluten; hla; immune response; immunogenetics; microbiome.

Full text links



49. [A positive diagnostic strategy is safe and saves endoscopies in patients with irritable bowel syndrome: A five-year follow-up of a randomized controlled trial](#)

Neurogastroenterol Motil. 2021 Mar;33(3):e14004. doi: 10.1111/nmo.14004. Epub 2020 Oct 7.

Authors

[Anne Line Engsbø](#)^{1 2}, [Luise M Begtrup](#)^{3 4}, [Peter Haastrup](#)⁴, [Maria Munch Storsveen](#)⁴, [Peter Bytzer](#)¹, [Jens Kjeldsen](#)⁵, [Ove Schaffalitzky De Muckadell](#)⁵, [Dorte Ejg Jarbøl](#)⁴

Affiliations

- ¹ Department of Medicine, Zealand University Hospital, Køge and Department of Clinical Medicine, Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark.

- ² Department of Clinical Microbiology, University Hospital Copenhagen Hvidovre, Hvidovre, Denmark.
- ³ Department of Occupational and Environmental Medicine, Bispebjerg and Frederiksberg Hospital, København, Denmark.
- ⁴ Research Unit of General Practice, Department of Public Health, University of Southern Denmark, Odense, Denmark.
- ⁵ Department of Medical Gastroenterology S, Odense University Hospital, Odense, Denmark.
- PMID: [33029843](#)
- DOI: [10.1111/nmo.14004](#)

Abstract

Background: Previously, the diagnosis of irritable bowel syndrome (IBS) required exclusion of organic causes by extensive diagnostic testing. Newer guidelines recommend IBS as a positive diagnosis based on symptoms with limited testing. We investigated the long-term safety and impact on use of health resources of a positive diagnostic strategy compared to a strategy of exclusion in patients with symptoms compatible with IBS.

Methods: In 2008-2010, primary care patients aged 18-50 years fulfilling the Rome III criteria for IBS without alarm signals were randomized to a positive diagnostic strategy (limited blood tests, n = 150) or a strategy of exclusion (extensive blood tests, fecal samples for intestinal parasites, and sigmoidoscopy with biopsies, n = 152). At five years, hospital-registered diagnoses and use of health resources including lower endoscopies were retrieved from national registries. Participants provided 5-year data on Rome III criteria for IBS, severity of symptoms, and quality of life.

Key results: Baseline mean age was 31.4 (SD 9.1) years; 79% were female. No cases of celiac disease, and gastrointestinal or gynecological cancers were diagnosed within five years. Negligible and comparable numbers were diagnosed with inflammatory bowel disease, benign gynecological conditions, and upper GI conditions in the two groups. The positive diagnosis strategy carried a higher number of lower endoscopies from year 1 to 5 (23 patients versus 13 patients in the exclusion group), but overall saved endoscopies.

Conclusions & inferences: A positive diagnosis of IBS was as safe as a diagnosis of exclusion in a five-year perspective and saved lower endoscopies;

the study was registered at ClinicalTrials.gov numbers:
[NCT00659763](https://clinicaltrials.gov/ct2/show/study/NCT00659763)/NCT01153295.

© 2020 John Wiley & Sons Ltd.

- [30 references](#)

Full text links



50. [Prognostic Role of Mismatch Repair Status, Histotype and High-Risk Pathologic Features in Stage II Small Bowel Adenocarcinomas](#)

Ann Surg Oncol. 2021 Feb;28(2):1167-1177. doi: 10.1245/s10434-020-08926-4. Epub 2020 Aug 5.

Authors

[Alessandro Vanoli](#)¹, [Federica Grillo](#)², [Camilla Guerini](#)³, [Giuseppe Neri](#)³, [Giovanni Arpa](#)³, [Catherine Klersy](#)⁴, [Gabriella Nesi](#)⁵, [Paolo Giuffrida](#)⁶, [Gianluca Sampietro](#)⁷, [Sandro Ardizzone](#)⁸, [Paolo Fociani](#)⁹, [Roberto Fiocca](#)², [Giovanni Latella](#)¹⁰, [Fausto Sessa](#)¹¹, [Antonietta D'Errico](#)¹², [Deborah Malvi](#)¹², [Claudia Mescoli](#)¹³, [Massimo Rugge](#)¹³, [Stefano Ferrero](#)¹⁴, [Gilberto Poggioli](#)¹⁵, [Fernando Rizzello](#)¹⁶, [Maria C Macciomei](#)¹⁷, [Donatella Santini](#)¹², [Umberto Volta](#)¹⁸, [Roberto De Giorgio](#)¹⁹, [Giacomo Caio](#)¹⁹, [Antonio Calabrò](#)²⁰, [Carolina Ciacci](#)²¹, [Maria D'Armiento](#)²², [Aroldo Rizzo](#)²³, [Gaspere Solina](#)²⁴, [Michele Martino](#)⁶, [Francesco Tonelli](#)²⁵, [Vincenzo Villanacci](#)²⁶, [Renato Cannizzaro](#)²⁷, [Vincenzo Canzonieri](#)^{28 29}, [Ada Maria Florena](#)³⁰, [Livia Biancone](#)³¹, [Giovanni Monteleone](#)³¹, [Roberto Caronna](#)³², [Antonio Ciardi](#)³³, [Luca Elli](#)³⁴, [Flavio Caprioli](#)³⁴, [Maurizio Vecchi](#)³⁴, [Renata D'Inca](#)³⁵, [Fabiana Zingone](#)³⁵, [Anna D'Odorico](#)³⁵, [Marco Vincenzo Lenti](#)⁶, [Barbara Oreggia](#)³⁶, [Luca Reggiani Bonetti](#)³⁷, [Antonino Giulio Giannone](#)³⁰, [Augusto Orlandi](#)³⁸, [Valeria Barresi](#)³⁹, [Rachele Ciccocioppo](#)⁴⁰, [Giuseppe Amodeo](#)⁴⁰, [Elena Biletta](#)⁴¹, [Ombretta Luinetti](#)³, [Paolo Pedrazzoli](#)^{6 42}, [Andrea Pietrabissa](#)⁴³, [Gino Roberto Corazza](#)⁶, [Enrico Solcia](#)³, [Marco Paulli](#)³, [Antonio Di Sabatino](#)⁶

Affiliations

- ¹ Anatomic Pathology Unit, Department of Molecular Medicine, University of Pavia and Fondazione IRCCS San Matteo Hospital, Pavia, Italy. alessandro.vanoli@unipv.it.
- ² Pathology Unit, Department of Surgical and Diagnostic Sciences, University of Genoa and Ospedale Policlinico San Martino University Hospital, Genoa, Italy.
- ³ Anatomic Pathology Unit, Department of Molecular Medicine, University of Pavia and Fondazione IRCCS San Matteo Hospital, Pavia, Italy.
- ⁴ Clinical Epidemiology and Biometry Unit, Fondazione IRCCS San Matteo Hospital, Pavia, Italy.
- ⁵ Division of Pathological Anatomy, Department of Surgery and Translational Medicine, University of Florence, Florence, Italy.
- ⁶ Department of Internal Medicine, University of Pavia and Fondazione IRCCS San Matteo Hospital, Pavia, Italy.
- ⁷ Unit of General Surgery, ASST Rhodense, Rho Hospital, University of Milan, Milan, Italy.
- ⁸ Gastroenterology Unit, Luigi Sacco University Hospital, Milan, Italy.
- ⁹ Anatomic Pathology Unit, ASST Ovest Milanese, Milan, Italy.
- ¹⁰ Gastroenterology Unit, Department of Life and Environmental Sciences, University of L'Aquila, L'Aquila, Italy.
- ¹¹ Pathology Unit, Department of Medicine and Surgery, University of Insubria, Varese, Italy.
- ¹² Department of Experimental, Diagnostic and Specialty Medicine (DIMES), Institute of Oncology and Transplant Pathology, St. Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy.
- ¹³ Pathology Unit, Department of Medicine, University of Padua, Padua, Italy.
- ¹⁴ Division of Pathology, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Department of Biomedical, Surgical and Dental Sciences, University of Milan, Milan, Italy.
- ¹⁵ Surgery of the Alimentary Tract, Department of Medical and Surgical Sciences, Sant'Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy.

- ¹⁶ Intestinal Chronic Bowel Disease Unit, Department of Medical and Surgical Sciences, Sant'Orsola-Malpighi Hospital, Alma Mater Studiorum University of Bologna, Bologna, Italy.
- ¹⁷ Pathology Unit, San Camillo-Forlanini Hospital, Rome, Italy.
- ¹⁸ Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy.
- ¹⁹ Department of Morphology, Surgery and Experimental Medicine, University of Ferrara, Ferrara, Italy.
- ²⁰ Department of Experimental and Clinical Biomedical Sciences, University of Florence, Florence, Italy.
- ²¹ Department of Medicine and Surgery, University of Salerno, Salerno, Italy.
- ²² Public Health Department, Federico II University of Naples, Naples, Italy.
- ²³ Unit of Pathology, Cervello Hospital, Palermo, Italy.
- ²⁴ Units of General Surgery, Cervello Hospital, Palermo, Italy.
- ²⁵ Surgery and Translational Medicine, University of Florence, Florence, Italy.
- ²⁶ Institute of Pathology, Spedali Civili Hospital, Brescia, Italy.
- ²⁷ Department of Gastroenterology, Centro di Riferimento Oncologico (CRO) di Aviano IRCCS, Aviano, Italy.
- ²⁸ Pathology Unit, Centro di Riferimento Oncologico (CRO) di Aviano IRCCS, Aviano, Italy.
- ²⁹ Department of Medical, Surgical and Health Sciences, University of Trieste, Trieste, Italy.
- ³⁰ Pathologic Anatomy Unit, Department of Health Promotion, Mother and Child Care, Internal Medicine and Medical Specialties, University of Palermo, Palermo, Italy.
- ³¹ Department of Systems Medicine, University of Tor Vergata, Rome, Italy.
- ³² Department of Surgical Sciences, La Sapienza University, Rome, Italy.
- ³³ Department of Radiological, Oncological, Pathological Sciences, Umberto I Hospital, La Sapienza University, Rome, Italy.
- ³⁴ Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy.
- ³⁵ Gastroenterology Section, Department of Surgery, Oncology and Gastroenterology, University of Padua, Padua, Italy.
- ³⁶ General Surgery Unit, Ca' Granda-Ospedale Maggiore Policlinico, Milan, Italy.

- ³⁷ Section of Pathology, Department of Diagnostic Medicine and Public Health, University of Modena and Reggio Emilia, Modena, Italy.
- ³⁸ Department of Biopathology and Image Diagnostics, University of Tor Vergata, Rome, Italy.
- ³⁹ Section of Anatomical Pathology, Department of Diagnostics and Public Health, University and Hospital Trust of Verona, Verona, Italy.
- ⁴⁰ Gastroenterology Unit, Department of Medicine, AOUI Policlinico G.B. Rossi, University of Verona, Verona, Italy.
- ⁴¹ Anatomic Pathology ASL Biella, Biella, Italy.
- ⁴² Oncology Unit, IRCCS San Matteo Hospital, Pavia, Italy.
- ⁴³ Department of Surgery, General Surgery II, University of Pavia and Fondazione IRCCS San Matteo Hospital, Pavia, Italy.
- PMID: [32761330](#)
- PMCID: [PMC7801310](#)
- DOI: [10.1245/s10434-020-08926-4](#)

Free PMC article

Abstract

Background: Small bowel adenocarcinoma is a relatively rare cancer, often diagnosed in an advanced stage. In localized and resectable disease, surgery alone or in combination with adjuvant chemotherapy is the mainstay of treatment. In the recently published National Comprehensive Cancer Network Clinical Practice guidelines, criteria for selecting patients with stage II small bowel adenocarcinoma to receive adjuvant chemotherapy are provided, and they are mainly extrapolated from studies on colorectal cancer.

Patients and methods: In the present study, we aimed to verify whether mismatch repair deficiency phenotype, high-risk pathologic features (including T4, positive resection margins and a low number of lymph nodes harvested), as well as tumor histologic subtype, were associated with cancer-specific survival in 66 stage II non-ampullary small bowel adenocarcinoma patients, collected through the Small Bowel Cancer Italian Consortium. A central histopathology review was performed. Mismatch repair deficiency was tested by immunohistochemistry for MLH1, MSH2, MSH6 and PMS2, and confirmed by polymerase chain reaction for microsatellite instability.

Results: We identified mismatch repair deficiency, glandular/medullary histologic subtype, and celiac disease as significant predictors of favorable cancer-specific survival using univariable analysis with retained significance in bivariable models adjusted for pT stage. Among the high-risk features, only T4 showed a significant association with an increased risk of death; however, its prognostic value was not independent of mismatch repair status.

Conclusions: Mismatch repair protein expression, histologic subtype, association with celiac disease, and, in the mismatch repair proficient subset only, T stage, may help identify patients who may benefit from adjuvant chemotherapy.

Conflict of interest statement

The Authors have declared no conflicts of interest.

- [Cited by 3 articles](#)
- [36 references](#)
- [2 figures](#)

Full text links



51. [The effects of gluten protein substation on chemical structure, crystallinity, and Ca in vitro digestibility of wheat-cassava snacks](#)

Food Chem. 2021 Mar 1;339:127875. doi: 10.1016/j.foodchem.2020.127875. Epub 2020 Aug 20.

Authors

[Asad Nawaz](#)¹, [Ali Hussein Taher Alhilali](#)², [Engpeng Li](#)³, [Ibrahim Khalifa](#)⁴, [Sana Irshad](#)⁵, [Noman Walayat](#)⁶, [Lei Chen](#)⁶, [Peng-Kai Wang](#)⁶, [Zhi Yuan Tan](#)⁷

Affiliations

- ¹ Jiangsu Key Laboratory of Crop Genetics and Physiology, Key Laboratory of Plant Functional Genomics of the Ministry of Education, College of Agriculture, Yangzhou University, Yangzhou 225009, PR China. Electronic address: 007298@yzu.edu.cn.
- ² Provincial Key Laboratory of Plant Molecular Breeding, College of Agriculture, South China Agricultural University, Guangzhou 510642, China.
- ³ Jiangsu Key Laboratory of Crop Genetics and Physiology, Key Laboratory of Plant Functional Genomics of the Ministry of Education, College of Agriculture, Yangzhou University, Yangzhou 225009, PR China.
- ⁴ Food Technology Department, Faculty of Agriculture, 13736, Moshtohor, Benha University, Egypt.
- ⁵ School of Environmental Studies, China University of Geo Sciences, Wuhan 430074, PR China.
- ⁶ College of Food Science and Technology, Huazhong Agricultural University, Hubei, Wuhan 430070, PR China.
- ⁷ Provincial Key Laboratory of Plant Molecular Breeding, College of Agriculture, South China Agricultural University, Guangzhou 510642, China. Electronic address: 2021scau@gmail.com.
- PMID: [32866701](https://pubmed.ncbi.nlm.nih.gov/32866701/)
- DOI: [10.1016/j.foodchem.2020.127875](https://doi.org/10.1016/j.foodchem.2020.127875)

Abstract

Gluten protein based snacks have been a major concern for allergen, low nutrition and physio-chemical properties. In this study, wheat flour (WF) was replaced with cassava starch (CS) at different levels [10, 20, 30, 40 and 50%(w/w)] to prepare fried snacks. The addition of CS significantly ($P < 0.05$) increased hardness and pasting properties while gluten network, oil uptake, water holding capacity, and expansion were decreased. Fourier transform infrared spectroscopy revealed that the secondary structure of amide I, α -helix ($1650\text{--}1660\text{ cm}^{-1}$), along with amide II region (1540 cm^{-1}) changed when CS was added. Starch-protein complex was identified by X-ray diffraction analysis while no starch-protein-lipid complex was observed. The micrographs from scanning electron microscopy showed that starch-protein matrix was interrupted when $\geq 40\%$ (w/w) CS was added. Furthermore, in vitro calcium

bioavailability was decreased slightly with the addition of CS. The results suggest the feasibility of adding 40% CS as an alternative to WF in snacks.

Keywords: Cassava starch; Chemical structure; Fried snacks; Starch-protein matrix; Wheat flour.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



52. [The use of microbial transglutaminase in a bread system: A study of gluten protein structure, deamidation state and protein digestion](#)

Food Chem. 2021 Mar 15;340:127903. doi: 10.1016/j.foodchem.2020.127903.
Epub 2020 Aug 26.

Authors

[Olivia Ogilvie](#)¹, [Sarah Roberts](#)², [Kevin Sutton](#)³, [Nigel Larsen](#)², [Juliet Gerrard](#)⁴, [Laura Domigan](#)⁵

Affiliations

- ¹ School of Biological Sciences, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand; Riddet Institute, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand; The New Zealand Institute for Plant and Food Research Limited, Private Bag 4704, Christchurch Mail Centre, Christchurch 8140, New Zealand; Department of Chemical and Materials Engineering The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. Electronic address: oogi280@aucklanduni.ac.nz.
- ² Riddet Institute, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand; The New Zealand Institute for Plant and Food

Research Limited, Private Bag 4704, Christchurch Mail Centre, Christchurch 8140, New Zealand.

- ³ Riddet Institute, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand; The New Zealand Institute for Plant and Food Research Limited, Private Bag 4704, Christchurch Mail Centre, Christchurch 8140, New Zealand. Electronic address: kevin.sutton@plantandfood.co.nz.
- ⁴ School of Biological Sciences, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand; Riddet Institute, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand; School of Chemical Sciences, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. Electronic address: j.gerrard@auckland.ac.nz.
- ⁵ School of Biological Sciences, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand; Riddet Institute, Massey University, Private Bag 11222, Palmerston North 4442, New Zealand; Department of Chemical and Materials Engineering The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. Electronic address: l.domigan@auckland.ac.nz.
- PMID: [32889205](https://pubmed.ncbi.nlm.nih.gov/32889205/)
- DOI: [10.1016/j.foodchem.2020.127903](https://doi.org/10.1016/j.foodchem.2020.127903)

Abstract

Microbial transglutaminase (mTG) catalyses the formation of protein crosslinks, deamidating glutamine in a side-reaction. Gluten deamidation by human tissue transglutaminase is critical to activate celiac disease pathogenesis making the addition of mTG to wheat-based products controversial. The ability of mTG (0-2000 U.kg⁻¹) to alter gluten's structure, digestibility and the deamidation state of six immunogenic gluten peptides within bread was investigated. Gluten's structure was altered when mTG exceeded 100 U.kg⁻¹, determined by confocal microscopy, extractability and free sulfhydryl assays. The effect of mTG on six immunogenic peptides was investigated by in vitro digestion (INFOGEST) and mass spectrometry. The addition of mTG to bread (0-2000 U.kg⁻¹) did not alter the deamidation state or digestibility of the immunogenic peptides investigated. Overall, this investigation indicated that the addition of mTG to bread does not create

activated gluten peptides. This analysis provides evidence for risk assessments of mTG as a food processing aid.

Keywords: Celiac; Food processing; Immunogenic peptide; Mass spectrometry; Peptidomics.

Copyright © 2020 Elsevier Ltd. All rights reserved.

Full text links



53. [The Gluten Gene: Unlocking the Understanding of Gluten Sensitivity and Intolerance](#)

Appl Clin Genet. 2021 Feb 11;14:37-50. doi: 10.2147/TACG.S276596. eCollection 2021.

Authors

[Nastaran Asri](#)¹, [Mohammad Rostami-Nejad](#)², [Robert P Anderson](#)³, [Kamran Rostami](#)⁴

Affiliations

- ¹ Basic and Molecular Epidemiology of Gastrointestinal Disorders Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- ² Gastroenterology and Liver Diseases Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- ³ Wesley Medical Research - The Wesley Hospital, Brisbane, Queensland, Australia.
- ⁴ Department of Gastroenterology, MidCentral DHB, Palmerston North, New Zealand.
- PMID: [33603437](#)
- PMCID: [PMC7886246](#)

- DOI: [10.2147/TACG.S276596](https://doi.org/10.2147/TACG.S276596)

Free PMC article

Abstract

Wheat flour is one of the most important food ingredients containing several essential nutrients including proteins. Gluten is one of the major protein components of wheat consisted of glutenin (encoded on chromosome 1) and gliadin (encoded on chromosome 1 and 6) and there are around hundred genes encoding it in wheat. Gluten proteins have the ability of eliciting the pathogenic immune responses and hypersensitivity reactions in susceptible individuals called "gluten-related disorders (GRDs)", which include celiac disease (CD), wheat allergy (WA), and non-celiac gluten sensitivity (NCGS). Currently removing gluten from the diet is the only effective treatment for mentioned GRDs and studies for the appropriate and alternative therapeutic approaches are ongoing. Accordingly, several genetic studies have focused on breeding wheat with low immunological properties through gene editing methods. The present review considers genetic characteristics of gluten protein components, focusing on their role in the incidence of gluten-related diseases, and genetic modifications conducted to produce wheat with less immunological properties.

Keywords: celiac disease; genetic loci; gliadin; glutenin; non-celiac gluten sensitivity; wheat allergy.

© 2021 Asri et al.

Conflict of interest statement

Dr Robert P Anderson reports personal fees from consultancies for GSK (Wilmington, DE, USA; since 2019), Allero Therapeutics BV (Rotterdam, Netherlands; since 2020), Takeda Pharmaceutical Company Ltd/Millennium Pharmaceuticals (Cambridge MA USA; since 2019), Kanyos Bio Inc (Cambridge MA USA; since 2019), Atheneum Partners GmbH (Berlin, Germany; since 2019), being an ImmusanT Inc, CSO, employee until September 2019, principal and founder of Specific Pharma Consulting, and founder and part-owner of Novoviah Pharmaceuticals Pty Ltd, outside the submitted work; in addition, Dr Robert P Anderson has multiple patents licensed to ImmusanT (patents lodged from 2009 to 2019 relating diagnosis, and treatment of coeliac disease) and BTG International (patents lodged from 2009 to 2019 relating diagnosis,

treatment, and modification of gluten for coeliac disease). The authors declare that they have no other potential conflicts of interest for this work.

- [148 references](#)
- [3 figures](#)

Full text links



54. [**Distal Pancreatectomy with Celiac Axis Resection \(Modified Appleby Procedure\) and Arterial Reconstruction for Locally Advanced Pancreatic Adenocarcinoma After FOLFIRINOX Chemotherapy and Chemoradiation Therapy**](#)

Ann Surg Oncol. 2021 Feb;28(2):1106-1108. doi: 10.1245/s10434-020-08740-y. Epub 2020 Jun 25.

Authors

[Pierre-Emmanuel Colombo](#)¹, [François Quenet](#)², [Pierre Alric](#)³, [Anne Mourregot](#)², [Mathias Neron](#)², [Fabienne Portales](#)⁴, [Philippe Rouanet](#)², [Guillaume Carrier](#)²

Affiliations

- ¹ Department of Surgical Oncology, Institut du Cancer de Montpellier (ICM), Montpellier, France. Pierre-Emmanuel.Colombo@icm.unicancer.fr.
- ² Department of Surgical Oncology, Institut du Cancer de Montpellier (ICM), Montpellier, France.
- ³ Department of Thoracic and Vascular Surgery, Arnaud de Villeneuve Hospital, Montpellier, France.
- ⁴ Department of Medical Oncology, Institut du Cancer de Montpellier (ICM), Montpellier, France.

- PMID: [32588265](#)
- DOI: [10.1245/s10434-020-08740-y](#)

Abstract

Background: Resectability of pancreatic carcinoma (PC) is directly linked to vascular extension (Tempero MA et al. in J Natl Compr Canc Netw 15(8):1028-1061, 2017. <https://doi.org/10.6004/jnccn.2017.0131> ; Isaji S et al. in Pancreatology 18(1):2-11, 2018. <https://doi.org/10.1016/j.pan.2017.11.011>). Involvement of the celiac axis (CA) is typically a contraindication to surgery. High postoperative morbidity and subsequent poor prognosis have been observed in this case, especially for contact > 180° requiring arterial resection (Tempero MA et al. 2017). Recent medical advances in PC treatment, such as FOLFIRINOX-based chemotherapy eventually followed by chemoradiation therapy, offer the potential to select tumour for surgery and to obtain a negative-margin resection even in case of unresectable PC at diagnosis (Suker M et al. in Lancet Oncol 17(6):801-10, 2016. [https://doi.org/10.1016/s1470-2045\(16\)00172-8](https://doi.org/10.1016/s1470-2045(16)00172-8) ; Pietrasz D et al. in Ann Surg Oncol 26(1):109-117, 2019. <https://doi.org/10.1245/s10434-018-6931-6>). A major pathologic response has been observed in more than 20% of patients after this treatment and is associated with an improved survival (Suker M et al. 2016; Pietrasz D et al. 2019). This evolution allows aggressive surgical strategies with the possibility of long-term disease control for patients showing a good response to induction treatment.

Patient: This video presents the case of a 66-year-old man diagnosed with a locally advanced ductal adenocarcinoma of the pancreatic body with a 360° involvement of the CA and the hepatic artery. After eight courses of FOLFIRINOX chemotherapy and a capecitabine-based chemoradiation, a surgical exploration was planned for potential resection.

Technique: The key steps of the procedure are presented, i.e. surgical exposition, assessment of resectability with frozen sections of peri-arterial tissues, en bloc resection (Strasberg SM et al. in Surgery 133(5):521-527, 2003. <https://doi.org/10.1067/msy.2003.146>), and primary end-to-end arterial reconstruction.

Conclusion: A modified Appleby operation for locally advanced PC is a technically challenging but feasible procedure in experienced teams. It offers the possibility of en bloc R0 resection of a locally advanced PC with the

potential of long-term disease local control. This video may help surgeons to perform this complex intervention.

- [14 references](#)

Full text links



55. [Longevity, clonal relationship, and transcriptional program of celiac disease-specific plasma cells](#)

J Exp Med. 2021 Feb 1;218(2):e20200852. doi: 10.1084/jem.20200852.

Authors

[Ida Lindeman](#)^{1 2}, [Chunyan Zhou](#)^{1 3}, [Linn M Eggesbø](#)^{1 2}, [Zhichao Miao](#)^{4 5 6}, [Justyna Polak](#)^{1 2}, [Knut E A Lundin](#)^{1 2 7}, [Jørgen Jahnsen](#)^{8 9}, [Shuo-Wang Qiao](#)^{1 2}, [Rasmus Iversen](#)^{1 2}, [Ludvig M Sollid](#)^{1 2}

Affiliations

- ¹ KG Jebsen Coeliac Disease Research Centre, University of Oslo, Oslo, Norway.
- ² Department of Immunology, University of Oslo and Oslo University Hospital, Oslo, Norway.
- ³ State Key Laboratory of Food Science and Technology, Nanchang University, Nanchang, Jiangxi, China.
- ⁴ European Molecular Biology Laboratory, European Bioinformatics Institute, Wellcome Genome Campus, Cambridge, UK.
- ⁵ Newcastle Fibrosis Research Group, Institute of Cellular Medicine, Faculty of Medical Sciences, Newcastle University, Newcastle upon Tyne, UK.
- ⁶ Translational Research Institute of Brain and Brain-Like Intelligence and Department of Anesthesiology, Shanghai Fourth People's Hospital (affiliated with Tongji University School of Medicine), Shanghai, China.

- ⁷ Department of Gastroenterology, Oslo University Hospital-Rikshospitalet, Oslo, Norway.
- ⁸ Department of Gastroenterology, Akershus University Hospital, Lørenskog, Norway.
- ⁹ Institute of Clinical Medicine, University of Oslo, Oslo, Norway.
- PMID: [33095260](#)
- PMCID: **PMC7590513** (available on 2021-08-01)
- DOI: [10.1084/jem.20200852](#)

Abstract

Disease-specific plasma cells (PCs) reactive with transglutaminase 2 (TG2) or deamidated gluten peptides (DGPs) are abundant in celiac disease (CeD) gut lesions. Their contribution toward CeD pathogenesis is unclear. We assessed expression of markers associated with PC longevity in 15 untreated and 26 treated CeD patients in addition to 13 non-CeD controls and performed RNA sequencing with clonal inference and transcriptomic analysis of 3,251 single PCs. We observed antigen-dependent V-gene selection and stereotypic antibodies. Generation of recombinant DGP-specific antibodies revealed a key role of a heavy chain residue that displays polymorphism, suggesting that immunoglobulin gene polymorphisms may influence CeD-specific antibody responses. We identified transcriptional differences between CeD-specific and non-disease-specific PCs and between short-lived and long-lived PCs. The short-lived CD19+CD45+ phenotype dominated in untreated and short-term-treated CeD, in particular among disease-specific PCs but also in the general PC population. Thus, the disease lesion of untreated CeD is characterized by massive accumulation of short-lived PCs that are not only directed against disease-specific antigens.

© 2020 Lindeman et al.

Conflict of interest statement

Disclosures: The authors declare no competing interests exist.

- [69 references](#)

Full text links

56. **Multi-criteria assessment of pea protein quality in rats: a comparison between casein, gluten and pea protein alone or supplemented with methionine**

Br J Nutr. 2021 Feb 28;125(4):389-397. doi: 10.1017/S0007114520002883.
Epub 2020 Jul 27.

Authors

[Florence M Guillin](#)^{1 2}, [Claire Gaudichon](#)¹, [Laetitia Guérin-Deremaux](#)², [Catherine Lefranc-Millot](#)², [Dalila Azzout-Marniche](#)¹, [Nadezda Khodorova](#)¹, [Juliane Calvez](#)¹

Affiliations

- ¹ Université Paris-Saclay, AgroParisTech, INRAE, UMR PNCA, 75005, Paris, France.
- ² Roquette, 62080Lestrem, France.
- PMID: [32713356](#)
- DOI: [10.1017/S0007114520002883](#)

Abstract

The objective of this study was to assess the nutritional quality of pea protein isolate in rats and to evaluate the impact of methionine (Met) supplementation. Several protein diets were studied: pea protein, casein, gluten, pea protein-gluten combination and pea protein supplemented with Met. Study 1: Young male Wistar rats (n 8/group) were fed the test diets ad libitum for 28 d. The protein efficiency ratio (PER) was measured. Study 2: Adult male Wistar rats (n 9/group) were fed the test diets for 10 d. A protein-free diet group was used to determine endogenous losses of N. The rats were placed in metabolism cages for 3 d to assess N balance, true faecal N digestibility and to calculate the Protein Digestible-Corrected Amino Acid Score (PDCAAS). They were then given a calibrated meal and euthanised 6 h

later for collection of digestive contents. The true caecal amino acid (AA) digestibility was determined, and the Digestible Indispensable Amino Acid Score (DIAAS) was calculated. Met supplementation increased the PER of pea protein (2.52 v. 1.14, $P < 0.001$) up to the PER of casein (2.55). Mean true caecal AA digestibility was 94 % for pea protein. The DIAAS was 0.88 for pea protein and 1.10 with Met supplementation, 1.29 for casein and 0.25 for gluten. Pea protein was highly digestible in rats under our experimental conditions, and Met supplementation enabled generation of a mixture that had a protein quality that was not different from that of casein.

Keywords: Amino acid digestibility; Digestible Indispensable Amino Acid Score; Protein Digestible-Corrected Amino Acid Score; Protein balance; Protein digestibility; Protein efficiency ratio.

Full text links



57. [Intestinal T-cell lymphoma presenting as colonic perforation in the setting of ulcerative colitis: a case report](#)

Clin J Gastroenterol. 2021 Feb;14(1):176-180. doi: 10.1007/s12328-020-01279-1. Epub 2020 Nov 10.

Authors

[Ali Phillip Mourad](#)¹, [Marie Shella De Robles](#)², [Robert Duncan Winn](#)²

Affiliations

- ¹ Department of Surgery, The Wollongong Hospital, Loftus Street, Wollongong, New South Wales, 2500, Australia. ap.mourad20@gmail.com.
- ² Department of Surgery, The Wollongong Hospital, Loftus Street, Wollongong, New South Wales, 2500, Australia.
- PMID: [33174156](#)
- DOI: [10.1007/s12328-020-01279-1](#)

Abstract

The intestinal T-cell lymphomas are a rare group of lymphatic malignancies arising from the gastrointestinal tract. They frequently manifest with non-specific clinical and radiographic findings that may mimic several other disease processes. The most common subtype is linked with refractory coeliac disease and commonly affects the small intestine. We report a case where the diagnosis was uncovered endoscopically in a patient presenting with colonic perforation on a background of long-standing ulcerative colitis. Surgical source control was required prior to considering chemotherapy, which is the usual treatment option in lymphatic malignancies. The case highlights the importance endoscopic evaluation in inflammatory conditions of the colon.

Keywords: Enteropathy-associated T-cell lymphoma; Intestinal neoplasms; Intestinal perforation; T-cell lymphoma; Ulcerative colitis.

- [21 references](#)

Full text links



58. [Positive tissue transglutaminase antibodies with negative endomysial antibodies: Unresolved issues in diagnosing celiac disease](#)

J Immunol Methods. 2021 Feb;489:112910. doi: 10.1016/j.jim.2020.112910. Epub 2020 Nov 7.

Authors

[Maria Infantino](#)¹, [Mario Merone](#)², [Mariangela Manfredi](#)³, [Valentina Grossi](#)³, [Alessandra Landini](#)³, [Maria Grazia Alessio](#)⁴, [Giulia Previtali](#)⁴, [Maria Teresa Trevisan](#)⁵, [Brunetta Porcelli](#)⁶, [Martina Fabris](#)⁷, [Donatella Macchia](#)⁸, [Danilo Villalta](#)⁹, [Luigi Cinquanta](#)¹⁰, [Federico D'Antoni](#)², [Giulio Iannello](#)², [Paolo Soda](#)², [Nicola Bizzaro](#)¹¹

Affiliations

- ¹ Laboratorio Immunologia e Allergologia, Ospedale S. Giovanni di Dio, Azienda USL. Centro Firenze, Toscana, Italy. Electronic address: maria2.infantino@uslcentro.toscana.it.
- ² Unità di Sistemi di elaborazione e Bioinformatica, Facoltà Dipartimentale di Ingegneria, Università Campus Bio-Medico, Roma, Italy.
- ³ Laboratorio Immunologia e Allergologia, Ospedale S. Giovanni di Dio, Azienda USL. Centro Firenze, Toscana, Italy.
- ⁴ Laboratorio Analisi Chimico Cliniche, ASST Papa Giovanni XXIII, Bergamo, Italy.
- ⁵ Laboratorio Analisi Chimico Cliniche e Microbiologiche, UOA di Laboratorio, Ospedale G. Fracastoro, Verona, Italy.
- ⁶ Dipartimento Biotecnologie Mediche, Università degli Studi di Siena, Siena, Italy.
- ⁷ SOC Istituto di Patologia Clinica, Azienda Sanitaria Universitaria Integrata, Udine, Italy.
- ⁸ SOS Allergologia Immunologia Clinica, Ospedale S. Giovanni di Dio, Azienda USL, Centro Firenze, Toscana, Italy.
- ⁹ SSD di Allergologia e Immunologia Clinica, Presidio Ospedaliero S. Maria degli Angeli, Pordenone, Italy.
- ¹⁰ IRCCS S.D.N, Napoli, Italy.
- ¹¹ Laboratorio di Patologia Clinica, Ospedale San Antonio, Tolmezzo - Azienda Sanitaria Universitaria Integrata di Udine, Italy.
- PMID: [33166550](https://pubmed.ncbi.nlm.nih.gov/33166550/)
- DOI: [10.1016/j.jim.2020.112910](https://doi.org/10.1016/j.jim.2020.112910)

Abstract

Background: The serological screening for celiac disease (CD) is currently based on the detection of anti-transglutaminase (tTG) IgA antibodies, subsequently confirmed by positive endomysial antibodies (EMA). When an anti-tTG IgA positive/EMA IgA negative result occurs, it can be due either to the lower sensitivity of the EMA test or to the lower specificity of the anti-tTG test. This study aimed at verifying how variation in analytical specificity among different anti-tTG methods could account for this discrepancy.

Methods: A total of 130 consecutive anti-tTG IgA positive/EMA negative samples were collected from the local screening routine and tested using five anti-tTG IgA commercial assays: two chemiluminescence methods, one fluoroimmunoenzymatic method, one immunoenzymatic method and one multiplex flow immunoassay method.

Results: Twenty three/130 (17.7%) patients were diagnosed with CD. In the other 107 cases a diagnosis of CD was not confirmed. The overall agreement among the five anti-tTG methods ranged from 28.5% to 77.7%. CD condition was more likely linked to the positivity of more than one anti-tTG IgA assay (monopositive = 2.5%, positive with \geq three methods = 29.5%; $p = 0.0004$), but it was not related to anti-tTG IgA antibody levels (either positive or borderline; $p = 0.5$).

Conclusions: Patients with positive anti-tTG/negative EMA have a low probability of being affected by CD. Given the high variability among methods to measure anti-tTG IgA antibodies, anti-tTG-positive/EMA-negative result must be considered with extreme caution. It is advisable that the laboratory report comments on any discordant results, suggesting to consider the data in the proper clinical context and to refer the patient to a CD reference center for prolonged follow up.

Keywords: Anti-endomysial antibodies; Anti-tissue transglutaminase antibodies; Assay variability; Celiac disease.

Copyright © 2020 Elsevier B.V. All rights reserved.

Full text links



59. [**Thermally induced gluten modification observed with rheology and spectroscopies**](#)

Int J Biol Macromol. 2021 Mar 15;173:26-33. doi: 10.1016/j.ijbiomac.2021.01.008. Epub 2021 Jan 7.

Authors

[Monika C Wehrli](#)¹, [Tim Kratky](#)², [Marina Schopf](#)³, [Katharina A Scherf](#)⁴, [Thomas Becker](#)¹, [Mario Jekle](#)⁵

Affiliations

- ¹ Technical University of Munich, Chair of Brewing and Beverage Technology, Research Group Cereal Technology and Process Engineering, Weißenstephaner Steig 20, 85354 Freising, Germany.
- ² Technical University of Munich, Department of Chemistry, Associate Professorship of Physical Chemistry with Focus on Catalysis, Lichtenbergstr, 4, 85748 Garching, Germany.
- ³ Leibniz-Institute for Food Systems Biology at the Technical University of Munich, Lise-Meitner-Str.34, 85354 Freising, Germany.
- ⁴ Leibniz-Institute for Food Systems Biology at the Technical University of Munich, Lise-Meitner-Str.34, 85354 Freising, Germany; Karlsruhe Institute of Technology, Department of Bioactive and Functional Food Chemistry, Institute of Applied Biosciences, Adenauerring 20a, 76131 Karlsruhe, Germany.
- ⁵ Technical University of Munich, Chair of Brewing and Beverage Technology, Research Group Cereal Technology and Process Engineering, Weißenstephaner Steig 20, 85354 Freising, Germany. Electronic address: mjekle@tum.de.
- PMID: [33422515](#)
- DOI: [10.1016/j.ijbiomac.2021.01.008](#)

Free article

[Abstract](#)

The protein vital gluten is mainly used for food while interest for non-food applications, like biodegradable materials, increases. In general, the structure and functionality of proteins is highly dependent on thermal treatments during production or modification. This study presents conformational changes and corresponding rheological effects of vital wheat gluten depending on temperature. Dry samples analyzed by X-ray photoelectron spectroscopy (XPS), Fourier-transform infrared spectroscopy (FTIR) and thermogravimetric analysis coupled with mass spectrometry (TGA-MS) show surface compositions and conformational changes from 25 to 250 °C. Above 170 °C, XPS reveals a decreased N content at the surface while FTIR band

characteristics for β -sheets prove structural changes. At 250 °C, protein denaturation accompanied by a significant mass loss due to dehydration and decarbonylation reactions is observed. Oscillatory measurements of optimally hydrated vital gluten describing network properties of the material show two structural changes along a temperature ramp from 25 to 90 °C: at 56-64 °C, the temperature necessary to trigger structural changes increases with the ratio of gliadin to total protein mass, determined by reversed-phase high performance liquid chromatography (RP-HPLC). At a temperature of 79-81 °C, complete protein denaturation occurs. FTIR confirms the denaturation process by showing band shifts with both temperature steps.

Keywords: Biopolymer; Protein; Rheology; Spectroscopy; Structure; Surface science.

Copyright © 2021 The Authors. Published by Elsevier B.V. All rights reserved.

Conflict of interest statement

Declaration of competing interest None.

Full text links



60. [The Impact of Celiac Disease and Duration of Gluten Free Diet on Anterior and Posterior Ocular Structures: Ocular Imaging Based Study](#)

Photodiagnosis Photodyn Ther. 2021 Feb 12;102214. doi: 10.1016/j.pdpdt.2021.102214. Online ahead of print.

Authors

[Raziye Dönmez Gün](#)¹, [Ayşin Tuba Kaplan](#)², [Nilüfer Zorlutuna Kaymak](#)³, [Emine Köroğlu](#)⁴, [Erdi Karadağ](#)⁵, [Saban Şimşek](#)⁶

Affiliations

- ¹ Ophthalmology Department, Istanbul Kartal Doctor Lütfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: rdmstf84@gmail.com.
- ² Ophthalmology Department, Istanbul Kartal Doctor Lütfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: aysintuba@yahoo.com.
- ³ Ophthalmology Department, Istanbul Kartal Doctor Lütfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: n_zorlutuna@yahoo.com.
- ⁴ Gastroenterology Department, Istanbul Kartal Dr. Lutfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: dreminesatir@gmail.com.
- ⁵ Ophthalmology Department, Istanbul Kartal Doctor Lütfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: erdi_karadag@hotmail.com.
- ⁶ Ophthalmology Department, Istanbul Kartal Doctor Lütfi Kırdar City Hospital, Istanbul, Turkey. Electronic address: drssimsek@yahoo.com.
- PMID: [33588056](https://pubmed.ncbi.nlm.nih.gov/33588056/)
- DOI: [10.1016/j.jpdpdt.2021.102214](https://doi.org/10.1016/j.jpdpdt.2021.102214)

Abstract

Purpose: To evaluate the eyes of adult celiac disease (CD) patients and investigate the association between these ocular parameters with celiac specific antibodies and duration of gluten free diet (GFD).

Methods: This cross-sectional study included 72 eyes of 36 CD patients (18-51 years of age) and 70 eyes of 35 age- and sex-matched healthy controls. In addition to a complete ophthalmologic examination, all patients were scanned by a Scheimpflug camera, specular microscopy and spectral domain optical coherence tomography.

Results: Endothelial cell density (ECD), anterior chamber angle (ACA) degrees, anterior chamber depth (ACD), anterior chamber volume (ACV) and central macular thickness (CMT) values were lower in CD patients as compared with control group (p values = 0.038, 0.024, 0.002, 0.038 and 0.046 respectively). ECD and CMT were lower in celiac patients whom endomysial antibodies (EMA) IgA were positive (p = 0.001, p = 0.042 respectively). Tissue transglutaminase IgA antibody (anti tTG IgA) was weakly positively correlated (p > 0.05) with ACD, and positively (r = 0,319; p < 0,05) correlated with ACV. As the duration of compliance to the diet increased in the celiac group the mean

and inferior retinal nerve fiber layer (RNFL) thickness decreased ($p = 0,035$, $p = 0,008$ respectively). Mean, inferior and temporal RNFL thicknesses were lower in celiac patients whose duration of GFD was longer than 5 years ($p < 0,05$).

Conclusions: Decreases in ECD, ACA degree, ACD, ACV and CMT can occur in CD patients. In adult celiac patients; ECD, CMT might be affected in the presence of positive EMA, and ACD, ACV might be affected in the presence of higher anti tTG IgA titer. Adult celiac patients who had longer duration of GFD may have thinner RNFL. RNFL may be thinner in celiac patients who comply to GFD for more than 5 years.

Keywords: Celiac disease; celiac specific antibodies; gluten free diet; ocular parameters.

Copyright © 2021. Published by Elsevier B.V.

Conflict of interest statement

Declaration of Competing Interest The authors report no declarations of interest.

Full text links



61. [**Risk for Coexistent Autoimmune Diseases in Familial and Sporadic Type 1 Diabetes is Related to Age at Diabetes Onset**](#)

Endocr Pract. 2021 Feb;27(2):110-117. doi: 10.1016/j.eprac.2020.09.012. Epub 2020 Dec 13.

Authors

[Agostino Milluzzo](#)¹, [Alberto Falorni](#)², [Annalisa Brozzetti](#)², [Giulia Pezzino](#)³, [Letizia Tomaselli](#)³, [Andrea Tumminia](#)¹, [Lucia Frittitta](#)¹, [Riccardo Vigneri](#)⁴, [Laura Sciacca](#)⁵

Affiliations

- ¹ Department of Clinical and Experimental Medicine, Endocrinology Section, University of Catania Medical School, Catania, Italy.
- ² Department of Medicine, University of Perugia, Perugia, Italy.
- ³ Endocrinology, Azienda Ospedaliera di Rilievo Nazionale ad Alta Specializzazione Garibaldi, Catania, Italy.
- ⁴ Department of Clinical and Experimental Medicine, Endocrinology Section, University of Catania Medical School, Catania, Italy; Institute of Crystallography, Catania Section, National Research Council, Catania, Italy.
- ⁵ Department of Clinical and Experimental Medicine, Endocrinology Section, University of Catania Medical School, Catania, Italy. Electronic address: lsiacca@unict.it.
- PMID: [33616044](https://pubmed.ncbi.nlm.nih.gov/33616044/)
- DOI: [10.1016/j.eprac.2020.09.012](https://doi.org/10.1016/j.eprac.2020.09.012)

Abstract

Objective: Type 1 diabetes (T1D) is frequently associated with other autoimmune diseases (AIDs). Although most of T1D patients are sporadic cases (S-T1D), 10% to 15% have a familial form (F-T1D) involving 2 or more first-degree relatives. This study evaluated the effect of T1D family aggregation and age onset on AIDs occurrence.

Methods: In this observational, cross-sectional, case-control, single center study, we enrolled 115 F-T1D and 115 S-T1D patients matched for gender, age, T1D age onset, and duration. With respect to T1D age onset (before or after 18 years), both groups were further subdivided into young- or adult-onset F-T1D and young- or adult-onset S-T1D. The presence of organ-specific antibodies and/or overt AIDs was evaluated.

Results: The F-T1D group had a higher percentage of AIDs (29.8% vs 18.4%, $P = .04$) and a significant earlier onset of AIDs at Cox regression analysis ($P = .04$) than the S-T1D group. Based on multivariate analysis, the adult-onset F-T1D subgroup had the highest prevalence of both additional organ-specific antibodies (60.5%) and overt AIDs (34.9%), whereas the adult S-T1D subgroup was the least frequently involved (29.1% and 12.7%, respectively). In F-T1D patients, offsprings develop T1D and AIDs earlier than their parents do.

Conclusions: In T1D patients, familial aggregation and adult-onset of T1D increase the risk for coexistent AIDs. These clinical predictors could guide clinicians to address T1D patients for the screening of T1D-related AIDs.

Keywords: Addison's disease; autoimmune diabetes; autoimmune gastritis; celiac disease; diabetes mellitus; thyroid diseases; type 1.

Copyright © 2020 AACE. Published by Elsevier Inc. All rights reserved.

Full text links



62. [Seronegative Villous Atrophy in Children: Clinical and Immunohistochemical Features](#)

J Pediatr Gastroenterol Nutr. 2021 Feb 1;72(2):282-287. doi: 10.1097/MPG.0000000000002917.

Authors

[Roberta Mandile](#)¹, [Mariantonia Maglio](#)², [Nicoletta Pellino](#)¹, [Marina Russo](#)¹, [Erasmus Miele](#)¹, [Maria Immacolata Spagnuolo](#)¹, [Riccardo Troncone](#)^{1 2}, [Renata Auricchio](#)^{1 2}

Affiliations

- ¹ Department of Translation Medical Science, Pediatric Section, University Federico II.
- ² European Laboratory for the Investigation of Food-Induced Diseases (ELFID), Naples, Italy.
- PMID: [32833891](#)
- DOI: [10.1097/MPG.0000000000002917](#)

Abstract

Objectives: Villous atrophy (VA) is not pathognomonic of celiac disease (CD). We aimed at reporting distribution, clinical, and immunohistochemical features of seronegative VA (SNVA) in a pediatric population.

Methods: We retrospectively collected data from patients who underwent intestinal biopsies between 2010 and 2017 and showed VA without serum CD-associated autoantibodies. Marsh-Oberhuber grading was used. Density of intraepithelial lymphocytes (IELs) expressing CD3 or TCR $\gamma\delta$ + receptor and of lamina propria CD25+ cells was assessed by immunohistochemistry. Intestinal deposits of anti-tissue transglutaminase2 (anti-TG2) were also investigated by double immunofluorescence.

Results: Over a 7-year period, 64 out of 1282 patients with VA had negative serum CD serology. Diagnoses were: inflammatory bowel diseases (IBD) (21/64), Gastro-Esophageal Reflux Disease (GERD) (12/64), food allergy (8/64), infections (7/64, of which 3 HIV infections), immune deficiency (3/64), short bowel syndrome (3/64), congenital diarrhea (2/64), other/inconclusive diagnosis (8/64). Forty-four, 15, and 5 showed Marsh 3a, 3b, and 3c lesion, respectively. The latter category included 2 patients with Crohn disease, 2 with immunodeficiencies, 1 with lymphohistiocytosis. In 41/46 (89%) patients, mononuclear CD25+ cells were above the cut-off, indicating mucosal inflammation but only 18/46 (39%) had IELs and TCR $\gamma\delta$ + IELs above limits of normality. In 10 of 46 (22%) patients, a positive immunofluorescence indicated the presence of anti-TG2 mucosal antibodies.

Conclusions: SNVA is not rare representing up to 5% of the cases of VA. Most patients have a Marsh 3a lesion. Immunohistochemical analysis may be helpful in excluding CD, whereas the finding of mucosal anti-TG2, particularly with a weak staining, shows no absolute specificity for CD.

Copyright © 2020 by European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition.

Conflict of interest statement

The authors report no conflicts of interest.

- [21 references](#)

Full text links



63. **Impact of Diet on Symptoms of the Irritable Bowel Syndrome**

Nutrients. 2021 Feb 9;13(2):575. doi: 10.3390/nu13020575.

Author

[Robin Spiller](#) ¹

Affiliation

- ¹ NIHR Nottingham Biomedical Research Centre, Nottingham NG7 2UH, UK.
- PMID: [33572262](#)
- PMCID: [PMC7915127](#)
- DOI: [10.3390/nu13020575](#)

Free PMC article

[Abstract](#)

Irritable bowel syndrome (IBS), with its key features of abdominal pain and disturbed bowel habit, is thought by both patients and clinicians to be strongly influenced by diet. However, the complexities of diet have made identifying specific food intolerances difficult. Eating disorders can masquerade as IBS and may need specialist treatment. While typical food allergy is readily distinguished from IBS, the mechanisms of gut-specific adverse reactions to food are only just being defined. These may include gut-specific mast cell activation as well as non-specific activation by stressors and certain foods. Visceral hypersensitivity, in some cases mediated by mast cell activation, plays a key part in making otherwise innocuous gut stimuli painful. Rapidly fermented poorly absorbed carbohydrates produce gaseous distension as well as short-chain fatty acids and lowering of colonic pH which may cause symptoms in IBS patients. Limiting intake of these in low FODMAP and related diets has proven popular and apparently successful in many patients. Existing diet, colonic microbiota and their metabolic products may be helpful in predicting who will respond. Wheat intolerance may reflect the fact that wheat is often a major source of dietary FODMAPs. It may also be either a

forme fruste of coeliac disease or non-specific immune activation. Wheat exclusion can be successful in some of these patients. More research is needed to fully understand the mechanisms of food intolerances and how to best ameliorate them in a personalised medicine approach to diet in IBS.

Keywords: FODMAP; allergy; diet; fibre; irritable bowel syndrome.

Conflict of interest statement

RS has received grant support from Ironwood Pharmaceuticals, Zespri International, Sanofi-Aventis and lecture fees from Menarini and Alfawasserman.

- [131 references](#)
- [4 figures](#)

Full text links



64. [Spanish multicenter study of surgical resection of pancreatic tumors infiltrating the celiac axis: does the type of pancreatectomy affect results?](#)

Clin Transl Oncol. 2021 Feb;23(2):318-324. doi: 10.1007/s12094-020-02423-6. Epub 2020 Jun 26.

Authors

[J M Ramia](#)¹, [E de Vicente](#)², [F Pardo](#)³, [L Sabater](#)⁴, [S Lopez-Ben](#)⁵, [Y Quijano](#)², [T Villegas](#)⁶, [G Blanco-Fernandez](#)⁷, [L Diez-Valladares](#)⁸, [I Lopez-Rojo](#)⁹, [E Martin-Perez](#)¹⁰, [F Pereira](#)¹¹, [A J Gonzalez](#)¹², [J Herrera](#)¹³, [M I García-Domingo](#)¹⁴, [M Serradilla](#)¹⁵

Affiliations

- ¹ Department of Surgery, Hospital General Universitario de Alicante, Pintor Baeza, 11, 03010, Alacant, Alacant, Spain. jose_ramia@hotmail.com.

- ² Department of Surgery, Hospital Universitario HM Sanchinarro, Madrid, Spain.
- ³ Department of Surgery, Clínica Universitaria de Navarra, Pamplona, Spain.
- ⁴ Department of Surgery, Hospital Clínico, Biomedical Research Institute, University of Valencia, Valencia, Spain.
- ⁵ Department of Surgery, Hospital Josep Trueta, Girona, Spain.
- ⁶ Department of Surgery, Hospital Virgen de las Nieves, Granada, Spain.
- ⁷ Department of Surgery, Hospital Universitario Infanta Cristina, Badajoz, Spain.
- ⁸ Department of Surgery, Hospital Universitario Clínico San Carlos, Madrid, Spain.
- ⁹ Department of Surgery, Fundación Jimenez Diaz, Madrid, Spain.
- ¹⁰ Department of Surgery, Hospital Universitario La Princesa, Madrid, Spain.
- ¹¹ Department of Surgery, Hospital Universitario de Fuenlabrada, Fuenlabrada, Spain.
- ¹² Department of Surgery, Hospital Quirón Málaga, Malaga, Spain.
- ¹³ Department of Surgery, Complejo Hospitalario de Navarra, Pamplona, Spain.
- ¹⁴ Department of Surgery, Hospital Mutua de Terrassa, Terrassa, Spain.
- ¹⁵ Department of Surgery, Hospital Universitario Miguel Servet, Zaragoza, Spain.
- PMID: [32592157](#)
- DOI: [10.1007/s12094-020-02423-6](#)

Abstract

Background: Pancreatectomy plus celiac axis resection (CAR) is performed in patients with locally advanced pancreatic cancer. The morbidity rates are high, and no survival benefit has been confirmed. It is not known at present whether it is the type of pancreatectomy, or CAR itself, that is the reason for the high complication rates.

Methods: Observational retrospective multicenter study.

Inclusion criteria: patient undergoing TP, PD or DP plus CAR for a pancreatic cancer.

Results: Sixty-two patients who had undergone pancreatic cancer surgery (PD,TP or DP) plus CAR were studied. Group 1: 17 patients who underwent PD/TP-CAR (13TP/4PD); group 2: 45 patients who underwent DP-CAR. Groups were mostly homogeneous. Operating time was longer in the PD/TP group, while operative complications did not differ statistically in the two groups. The number of lymph nodes removed was higher in the PD/TP group (26.5 vs 17.3), and this group also had a higher positive node ratio (17.9% vs 7.6%). There were no statistical differences in total or disease-free survival between the two groups.

Conclusion: It seems that CAR, and not the type of pancreatectomy, influences morbidity and mortality in this type of surgery. International multicenter studies with larger numbers of patients are now needed to validate the data presented here.

Keywords: Arterial; Cancer; DP-CAR; Distal pancreatectomy; Embolization; PHAE; Pancreas; Pancreatoduodenectomy; Review; Surgery; Total pancreatectomy.

- [35 references](#)

Full text links



65. [Serological screening for celiac disease using IgA-tissue transglutaminase antibody in patients with recurrent aphthous stomatitis](#)

Int J Dermatol. 2021 Feb;60(2):e49-e51. doi: 10.1111/ijd.15271. Epub 2020 Oct 27.

Authors

[Luiz F Morgado de Abreu](#)¹, [Marilda A M Morgado de Abreu](#)², [Vera L Sdepanian](#)³, [Cleonice H W Hirata](#)⁴, [Dalva R N Pimentel](#)⁵, [Janáina C M Braz](#)², [Adilson Costa](#)¹

Affiliations

- ¹ Postgraduate Program in Health Science, Instituto de Assistência Médica ao Servidor Público Estadual, São Paulo, SP, Brazil.
- ² Department of Dermatology, Hospital Regional de Presidente Prudente, Universidade do Oeste Paulista, Presidente Prudente, SP, Brazil.
- ³ Division of Pediatric Gastroenterology, Department of Pediatrics, Universidade Federal de São Paulo, Escola Paulista de Medicina, São Paulo, SP, Brazil.
- ⁴ Department of Otorhinolaryngology, Head and Neck Surgery, Universidade Federal de São Paulo, Escola Paulista de Medicina, São Paulo, SP, Brazil.
- ⁵ Department of Dermatology, Universidade Federal de São Paulo, Escola Paulista de Medicina, São Paulo, SP, Brazil.
- PMID: [33107591](#)
- DOI: [10.1111/ijid.15271](#)

No abstract available

- [5 references](#)

Full text links



66. [Identification of Deamidated Peptides in Cytokine-Exposed MIN6 Cells through LC-MS/MS Using a Shortened Digestion Time and Inspection of MS2 Spectra](#)

J Proteome Res. 2021 Feb 5;20(2):1405-1414. doi: 10.1021/acs.jproteome.0c00801. Epub 2020 Dec 29.

Authors

[Aïsha Callebaut](#)¹, [Rita Derua](#)^{2 3}, [Saurabh Vig](#)¹, [Thomas Delong](#)⁴, [Chantal Mathieu](#)¹, [Lut Overbergh](#)¹

Affiliations

- ¹ Laboratory for Clinical and Experimental Endocrinology, KU Leuven, 3000 Leuven, Belgium.
- ² Laboratory of Protein Phosphorylation and Proteomics, KU Leuven, 3000 Leuven, Belgium.
- ³ SyBioMa, KU Leuven, 3000 Leuven, Belgium.
- ⁴ Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz, Aurora, Colorado 80045, United States.
- PMID: [33372785](#)
- DOI: [10.1021/acs.jproteome.0c00801](#)

Abstract

Enzymatic deamidation, the conversion of glutamine (Gln) into glutamic acid (Glu) residues, mediated by tissue transglutaminase enzymes, can provoke autoimmunity by generating altered self-epitopes, a process well-known in celiac disease and more recently also described in type 1 diabetes (T1D). To identify deamidated proteins, liquid chromatography-tandem mass spectrometry is the method of choice. However, as nonenzymatic deamidations on asparagine (Asn) and to a minor extent on Gln are frequently induced in vitro during proteomics sample preparation, the accurate detection of in vivo deamidation can be hampered. Here we report on the optimization of a method to reduce in vitro generated deamidation by 70% using improved trypsin digestion conditions (90 min/pH 8). We also point to the critical importance of manual inspection of MS2 spectra, considering that only 55% of the high quality peptides with Gln deamidation were assigned correctly using an automated search algorithm. As proof of principal, using these criteria, we showed a significant increase in levels of both Asn and Gln deamidation in cytokine-exposed murine MIN6 β -cells, paralleled by an increase in tissue transglutaminase activity. These findings add evidence to the hypothesis that deamidation is occurring in stressed β -cell proteins and can be involved in the autoimmune process in T1D.

Keywords: artifactual deamidation; autoimmunity; enzymatic deamidation; type 1 diabetes.

Full text links



67. Gastrointestinal Food Allergies and Intolerances

Gastroenterol Clin North Am. 2021 Mar;50(1):41-57. doi: 10.1016/j.gtc.2020.10.006.

Authors

[Emily Hon](#)¹, [Sandeep K Gupta](#)²

Affiliations

- ¹ Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Riley Hospital for Children at IU Health, ROC 4210, 705 Riley Hospital Drive, Indianapolis, IN 46202, USA.
- ² Community Health Network, 6626 E 75th Street, Suite 400, Indianapolis, IN 46250, USA; Section of Pediatric Gastroenterology, Hepatology, Nutrition, Riley Hospital for Children at IU Health, Indiana University School of Medicine, ROC 4210, 705 Riley Hospital Drive, Indianapolis, IN 46202, USA. Electronic address: sgupta@iu.edu.
- PMID: [33518168](#)
- DOI: [10.1016/j.gtc.2020.10.006](https://doi.org/10.1016/j.gtc.2020.10.006)

Abstract

Adverse reactions to food include immune-mediated food allergies, celiac disease, and nonimmune-mediated food intolerances. Differentiating between these many disorders is important to guide us toward appropriate testing and management. Double-blind placebo-controlled food challenges are the gold standard for food allergy diagnosis but are difficult and time-consuming. In place of this, strong clinical history, other supportive tests, and oral food

challenges are helpful. Some commonly available tests for food allergy and intolerances lack sufficient evidence for efficacy. Food intolerance diagnosis is largely based on history and supported by symptom improvement with appropriate dietary manipulation.

Keywords: Allergy testing; Anaphylaxis; Food allergy; Food intolerance; Food protein-induced enterocolitis syndrome; Immunoglobulin G testing; Irritable bowel syndrome; Oral allergy syndrome.

Copyright © 2020 Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosure E. Hon has no conflict of interest to disclose. S. Gupta is a consultant for Adare, Abbott, Allakos, Gossamer Bio, Receptos, and Medscape; royalties UpToDate; research support Shire.

Full text links



68. [Functional Components and Anti-Nutritional Factors in Gluten-Free Grains: A Focus on Quinoa Seeds](#)

Foods. 2021 Feb 7;10(2):351. doi: 10.3390/foods10020351.

Authors

[Valentina Melini](#)¹, [Francesca Melini](#)¹

Affiliation

- ¹ CREA Research Centre for Food and Nutrition, Via Ardeatina 546, I-00178 Rome, Italy.
- PMID: [33562277](#)
- PMCID: [PMC7915320](#)

- DOI: [10.3390/foods10020351](https://doi.org/10.3390/foods10020351)

Free PMC article

[Abstract](#)

Quinoa (*Chenopodium quinoa* Willd.) has recently received increasing interest from both scientists and consumers due to its suitability in gluten-free diets, its sustainability, and its claimed superfood qualities. The aim of this paper is to systematically review up-to-date studies on quinoa functional components and anti-nutritional factors, in order to define a baseline for food scientists approaching the investigation of quinoa phytochemicals and providing evidence for the identification of healthier sustainable foods. State of the art evaluations of phytochemical contents in quinoa seeds were obtained. It emerged that phenolic compounds are the most investigated functional components, and spectrophotometric methods have been mostly applied, despite the fact that they do not provide information about single components. Saponins are the most studied among anti-nutritional factors. Betalains, tannins, and phytoecdysteroids have been poorly explored. Information on factors affecting the phytochemical content at harvesting, such as quinoa ecotypes, crop geographical location and growing conditions, are not always available. A comprehensive characterization, encompassing several classes of functional components and anti-nutritional factors, is mainly available for quinoa varieties from South America. However, defining a standard of quality for quinoa seeds is still challenging and requires a harmonization of the analytical approaches, among others.

Keywords: anti-nutrients; bioactive compounds; gluten-free; phenolic compounds; phytochemicals; pseudocereals; quinoa; saponins; sustainable food.

Conflict of interest statement

The authors declare no conflict of interest.

- [78 references](#)
- [2 figures](#)

Full text links



69. The effect of gluten-free diet on body mass index in paediatric celiac disease

Acta Paediatr. 2021 Feb 2. doi: 10.1111/apa.15787. Online ahead of print.

Authors

[Adi Anafy](#)^{1 2}, [Shlomi Cohen](#)^{1 2}, [Amir Ben Tov](#)^{1 2}, [Achiya Amir](#)^{1 2}, [Yael Weintraub](#)^{1 2}, [Hadar Moran-Lev](#)^{1 2}, [Margalit Dali Levy](#)^{1 2}, [Maayan Ankona Busse](#)^{1 2}, [Anat Yerushalmy Feler](#)^{1 2}

Affiliations

- ¹ Pediatric Gastroenterology Unit, Dana-Dwek Children's Hospital, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel.
- ² Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.
- PMID: [33529351](#)
- DOI: [10.1111/apa.15787](#)

Abstract

Aim: More normal weight and overweight children are currently diagnosed with celiac disease (CD). We aimed to describe the relation between body mass index (BMI) and the clinical characteristics of paediatric CD and to determine the effect of a gluten-free diet (GFD) on BMI.

Methods: Data on all children diagnosed with CD during 7/2010-7/2019 with documented anthropometric data at diagnosis were retrospectively analysed. The children were divided into three groups according to BMI status at diagnosis: underweight, normal weight and overweight (BMIs <5%, 5%-85% and >85%, respectively).

Results: Of the 236 children [median age 7.87 (4.91-11) years] included in the study, 24 (10.1%) were underweight at diagnosis and 32 (13.6%) were overweight. Diarrhoea as the presenting symptom was significantly more common in the overweight group ($p = 0.012$), while short stature was more common in the underweight group ($p = 0.002$). Following a GFD had no significant effect on the children's BMI during a median follow-up of 15.7 (0-

85) months, but there was a significant shift of patients between the BMI categories ($p < 0.001$).

Conclusion: Although a shift of patients between the BMI categories was observed, following a GFD did not significantly affect the overall BMI in children with CD.

Keywords: BMI; celiac; children; gluten-free diet.

© 2021 Foundation Acta Paediatrica. Published by John Wiley & Sons Ltd.

- [25 references](#)

Full text links



70. [All Things Gluten: A Review](#)

Gastroenterol Clin North Am. 2021 Mar;50(1):29-40. doi: 10.1016/j.gtc.2020.10.007.

Authors

[Naureen A Chaudhry](#)¹, [Chelsea Jacobs](#)², [Peter H R Green](#)³, [S Devi Rampertab](#)⁴

Affiliations

- ¹ Division of Gastroenterology and Hepatology, Department of Medicine, University of Florida, 1329 Southwest 16th Street, Suite 5251, Gainesville, FL 32608, USA.
- ² Department of Medicine, University of Florida, 1329 Southwest 16th Street, Suite 5251, Gainesville, FL 32608, USA.
- ³ Celiac Disease Center at Columbia University, 180 Fort Washington Avenue, New York, NY 10032, USA.
- ⁴ Division of Gastroenterology and Hepatology, Department of Medicine, University of Florida, 1329 Southwest 16th Street, Suite 5251, Gainesville, FL 32608, USA. Electronic address: Devi.Rampertab@medicine.ufl.edu.

- PMID: [33518167](#)
- DOI: [10.1016/j.gtc.2020.10.007](#)

Abstract

Gluten is a common dietary component with a complex protein structure. It forms incomplete products of digestion, which have the potential to mount an immune response in genetically predisposed individuals, resulting in celiac disease. It also has been linked with nonceliac gluten sensitivity and irritable bowel syndrome due to wheat allergy. A gluten-free diet is an effective treatment of these conditions; however, it can lead to micronutrient and mineral deficiencies and a macronutrient imbalance with higher sugar and lipid intake. Recent popularity has led to greater availability, but increasing cost, of commercially available gluten-free products.

Keywords: Celiac disease; Gluten; Gluten sensitivity; Gluten-free diet; Irritable bowel syndrome; Nutrition.

Copyright © 2020 Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosure None of the authors has any financial disclosures for the purpose of this publication.

Full text links



71. [Well-being and dietary adherence in patients with coeliac disease depending on follow-up](#)

Scand J Gastroenterol. 2021 Feb 23;1-10. doi: 10.1080/00365521.2021.1889024. Online ahead of print.

Authors

[Jesper Lexner](#)^{1 2}, [Henrik Hjortswang](#)^{3 4}, [Rickard Ekesbo](#)⁵, [Klas Sjöberg](#)^{1 2}

Affiliations

- ¹ Department of Clinical Sciences, Lund University, Lund, Sweden.
- ² Department of Gastroenterology, Skåne University Hospital, Malmö, Sweden.
- ³ Department of Gastroenterology and Hepatology, Linköping University, Linköping, Sweden.
- ⁴ Department of Health, Medicine, and Caring Sciences, Linköping University, Linköping, Sweden.
- ⁵ Department of Clinical Sciences, Lund University, Vårdhuset Malmö, Sweden.
- PMID: [33621157](#)
- DOI: [10.1080/00365521.2021.1889024](#)

Abstract

Objective: It is not clear how follow-up of coeliac disease should be optimally organised. In Malmö, Sweden, patients are followed up by general practitioners (GP), but in Linköping by gastroenterologists (GE). The aim of this study was to investigate if there were any differences in well-being and dietary adherence depending on type of follow-up.

Methods: All adult patients with newly diagnosed biopsy-verified coeliac disease in the cities between 2010 and 2014 were offered to participate. Data was retrieved comprising demography, laboratory analyses, questionnaires (Gastrointestinal Symptoms Rating Scale, Short Health Scale, Multidimensional Fatigue Inventory, Psychological General Well-being Index and Short Form 36) and follow-up.

Results: In the GP cohort 39/73 patients and in the GE cohort 58/121 agreed to participate (mean age 43 and 44 years, 69 and 60% women, respectively). A follow-up to a dietician was carried out in 31% and 93% of patients, respectively ($p < .001$). In the GP group 28% had eaten gluten-containing food during the last 4 weeks compared to 9% in the GE group ($p = .01$). Despite this, no differences could be seen in vitamin or mineral levels. The questionnaires did not indicate any major discrepancies in subjective health.

Conclusion: Irrespective of the design of the follow-up physical and mental well-being were comparable. Dietary adherence was not quite as good in the GP group but follow-up in a primary care setting can still be a suitable and equivalent alternative. However, it is crucial that the dietary counselling is structured in a way that ensures dietary adherence.

Keywords: Coeliac disease; diet; follow-up; quality of life; well-being.

Full text links



72. [Gluten and Autism Spectrum Disorder](#)

Nutrients. 2021 Feb 9;13(2):572. doi: 10.3390/nu13020572.

Authors

[Iain D Croall](#)¹, [Nigel Hoggard](#)¹, [Marios Hadjivassiliou](#)²

Affiliations

- ¹ Department of Infection, Immunity & Cardiovascular Disease, University of Sheffield/INSIGENO, Sheffield S10 2JF, UK.
- ² Academic Departments of Neurosciences and Neuroradiology, Sheffield Teaching Hospitals NHS Trust, Sheffield S10 2JF, UK.
- PMID: [33572226](#)
- PMCID: [PMC7915454](#)
- DOI: [10.3390/nu13020572](#)

Free PMC article

[Abstract](#)

An expanding body of literature is examining connections between Autism Spectrum Disorder (ASD) and dietary interventions. While a number of specialist diets have been suggested as beneficial in ASD, gluten has received particularly close attention as a potentially exacerbating factor. Reports exist suggesting a beneficial effect of the gluten-free diet (GFD) in ameliorating behavioural and intellectual problems associated with ASD, while

epidemiological research has also shown a comorbidity between ASD and coeliac disease. However, both caregivers and clinicians have expressed an uncertainty of the value of people with ASD going gluten-free, and as the GFD otherwise receives considerable public attention a discussion which focuses specifically on the interaction between ASD and gluten is warranted. In this review we discuss the historical context of ASD and gluten-related studies, and expand this to include an overview of epidemiological links, hypotheses of shared pathological mechanisms, and ultimately the evidence around the use and adoption of the GFD in people with ASD.

Keywords: autism spectrum disorder; celiac disease; coeliac disease; gluten sensitivity; review.

Conflict of interest statement

The authors declare no conflict of interest.

- [111 references](#)
- [1 figure](#)

Full text links



73. [Effects of thermal properties and behavior of wheat starch and gluten on their interaction: A review](#)

Int J Biol Macromol. 2021 Feb 23;177:474-484. doi: 10.1016/j.ijbiomac.2021.02.175. Online ahead of print.

Authors

[Zhen Wang](#)¹, [Sen Ma](#)², [Binghua Sun](#)³, [Fengcheng Wang](#)¹, [Jihong Huang](#)⁴, [Xiaoxi Wang](#)¹, [Qingdan Bao](#)¹

Affiliations

- ¹ College of Food Science and Engineering, Henan University of Technology, Zhengzhou, Henan 450001, China.
- ² College of Food Science and Engineering, Henan University of Technology, Zhengzhou, Henan 450001, China. Electronic address: masen@haut.edu.cn.
- ³ College of Food Science and Engineering, Henan University of Technology, Zhengzhou, Henan 450001, China. Electronic address: sbhfood@126.com.
- ⁴ College of Biological Engineering, Henan University of Technology, Zhengzhou, Henan 450001, China.
- PMID: [33636262](https://pubmed.ncbi.nlm.nih.gov/33636262/)
- DOI: [10.1016/j.ijbiomac.2021.02.175](https://doi.org/10.1016/j.ijbiomac.2021.02.175)

Abstract

Starch and gluten, the most important macromolecules in wheat flour, vary in thermal properties. The thermal behavior of starch, gluten and their complexes during the manufacture and quality control of flour products need to be accurately understood. However, the high complexity of starch-gluten systems impedes the accurate description of their interactions. When heated within varying temperature ranges and when water molecules are involved, the behaviors of amylose and amylopectin change, and the properties of the starch are modified. Moreover, important indicators of starch granules such as gelatinization temperature, peak viscosity, and so on, which are encapsulated by the gluten matrix, are altered. Meanwhile, the high-temperature environment induces the opening of the intrachain disulfide bonds of gliadin, leading to an increase in the probability of interchain disulfide bond formation in the gluten network system. These behaviors are notable and may provide insights into this complex interaction. In this review, the relationship between the thermal behavior of wheat starch and gluten and the quality of flour products is analyzed. Several methods used to investigate the thermal characteristics of wheat and its flour products are summarized, and some thermal interaction models of starch and gluten are proposed.

Keywords: Gluten; Thermal behavior; Wheat starch.

Copyright © 2021 Elsevier B.V. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing interests.

Full text links



74. [Distal Pancreatectomy with Celiac Axis Resection-with Posterior Ramps Approach-for Locally Advanced Pancreatic Adenocarcinoma with Celiac Trunk Infiltration \(Modified Appleby Procedure\) \(with Video\)](#)

J Gastrointest Surg. 2021 Feb;25(2):571-573. doi: 10.1007/s11605-020-04782-5. Epub 2020 Sep 1.

Authors

[Jade Fawaz](#)^{1 2}, [Maxime Barat](#)^{3 2}, [Sébastien Gaujoux](#)^{4 5 6}

Affiliations

- ¹ Department of Pancreatic and Endocrine Surgery, Cochin Hospital, APHP, Paris, France.
- ² Sorbonne University, Paris, France.
- ³ Department of Radiology, Cochin Hospital, APHP, Paris, France.
- ⁴ Department of Pancreatic and Endocrine Surgery, Cochin Hospital, APHP, Paris, France. sebastien.gaujoux@aphp.fr.
- ⁵ Department of Hepatobiliary Pancreatic and Liver Transplantation Surgery, Pitié-Salpêtrière Hospital, AP-HP, Paris, France. sebastien.gaujoux@aphp.fr.
- ⁶ Sorbonne University, Paris, France. sebastien.gaujoux@aphp.fr.

- PMID: [32875441](#)
- DOI: [10.1007/s11605-020-04782-5](#)

Abstract

With the advent of FOLFIRINOX and neoadjuvant radiotherapy, the surgical indications for adenocarcinoma have expanded. Locally advanced pancreatic adenocarcinomas of the body/tail with infiltration of the celiac trunk which have a good clinical, biological, and radiological response to neoadjuvant treatment may therefore be eligible for caudal pancreatectomy with resection of the celiac trunk (modified Appleby procedure). In addition to rigorous patient selection and surgical expertise, this procedure also requires experience in interventional radiology.

Keywords: Adenocarcinoma; Appleby procedure; Celiac axis resection; Celiac trunk infiltration; Distal pancreatectomy; Pancreas.

- [3 references](#)

Full text links



75. [Illness Identity in Adolescents With Celiac Disease](#)

J Pediatr Gastroenterol Nutr. 2021 Feb 1;72(2):e42-e47. doi: 10.1097/MPG.0000000000002946.

Authors

[Sonya Meyer](#) ^{1 2}, [Liron Lamash](#) ²

Affiliations

- ¹ Department of Occupational Therapy, Faculty of Health Sciences, Ariel University, Ariel.
- ² Department of Occupational Therapy, Faculty of Social Welfare & Health Sciences University of Haifa, Mount Carmel, Haifa, Israel.

- PMID: [32932383](#)
- DOI: [10.1097/MPG.0000000000002946](#)

Abstract

Objectives: The aim was to examine the reliability and validity of the Illness Identity Questionnaire (IIQ) among adolescents with celiac disease (CD), to describe their illness identity characteristics, and to examine relationships between illness identity and self-reported participation in food-related activities and quality of life.

Methods: Adolescents with CD (n = 91) were recruited for this cross-sectional study via social media interest groups. Participants completed online questionnaires: the IIQ, the CD Children's Activities Chart (CD-Chart), and the Pediatric Quality of Life Inventory (PedsQL).

Results: Internal reliability was established for IIQ items ($\alpha = 0.87$) and for its 4 components ($\alpha = 0.75$ -- 0.90). The positive components (acceptance, enrichment) significantly differed from the negative components (rejection, engulfment), $t(90) = 11.45$, $P < 0.001$, $d = 1.98$. Feelings were more positive ($M = 3.48$, $SD = 0.67$) than negative ($M = 2.06$, $SD = 0.76$). The total IIQ was positively associated with the CD-Chart amount of activities ($r = 0.30$, $P < 0.01$) and enjoyment ($r = 0.34$, $P < 0.001$) and with the PedsQL social scale ($r = 0.53$, $P < 0.001$).

Conclusions: The IIQ established acceptable reliability and validity. In all, the adolescents with CD exhibited an illness identity profile that was more positive and adaptive than negative. The IIQ can contribute to understanding the developmental status of illness identity during the critical transition process from adolescence to adulthood.

Copyright © 2020 by European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition.

Conflict of interest statement

The authors report no conflicts of interest.

- [35 references](#)

Full text links



76. [Unexpected Diagnosis in an Adolescent With Bruises and Ecchymosis: Celiac Disease](#)

Pediatr Emerg Care. 2021 Feb 1;37(2):e77-e78. doi: 10.1097/PEC.0000000000001597.

Authors

[Anil Er](#)¹, [Aykut Çağlar](#)¹, [Pinar Kuyum](#)², [Fatma Akgül](#)¹, [Emel Ulusoy](#)¹, [Hale Çitlenbik](#)¹, [Betül Yandım Aksoy](#)², [Durgül Yılmaz](#)¹, [Nur Arslan](#)², [Murat Duman](#)¹

Affiliations

- ¹ From the Divisions of Pediatric Emergency Medicine.
- ² Pediatric Gastroenterology and Hepatology, Dokuz Eylul University School of Medicine, Izmir, Turkey.
- PMID: [30211833](#)
- DOI: [10.1097/PEC.0000000000001597](#)

Abstract

Acquired coagulopathy is a rare but challenging diagnosis for pediatric emergency physicians. Although the coagulopathy usually presents with mild skin and mucosal hemorrhages, it also can lead to life-threatening events. Thus, accurate interpretation of hints obtained from a detailed history, physical examination, and laboratory findings is essential for the prompt diagnosis and management. This case demonstrates an uncommon cause of coagulopathy; celiac disease that presented with spontaneous bruises and ecchymosis in an adolescent.

Copyright © 2018 Wolters Kluwer Health, Inc. All rights reserved.

Conflict of interest statement

Disclosure: The authors declare no conflict of interest.

- [16 references](#)

Full text links



77. [Immune-mediated enteropathies: From bench to bedside](#)

J Autoimmun. 2021 Mar;118:102609. doi: 10.1016/j.jaut.2021.102609. Epub 2021 Feb 17.

Authors

[Roy L J van Wanrooij](#)¹, [Hetty J Bontkes](#)², [E Andra Neefjes-Borst](#)³, [Chris J Mulder](#)⁴, [Gerd Bouma](#)⁴

Affiliations

- ¹ Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Gastroenterology and Hepatology, AGEM Research Institute, Amsterdam, the Netherlands. Electronic address: rl.vanwanrooij@amsterdamumc.nl.
- ² Amsterdam UMC, Laboratory Medical Immunology, Department of Clinical Chemistry, AI & I Institute, AGEM Research Institute, Amsterdam, the Netherlands.
- ³ Amsterdam UMC, Department of Pathology, Amsterdam, the Netherlands.
- ⁴ Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Gastroenterology and Hepatology, AGEM Research Institute, Amsterdam, the Netherlands.
- PMID: [33607573](#)

- DOI: [10.1016/j.jaut.2021.102609](https://doi.org/10.1016/j.jaut.2021.102609)

Free article

[Abstract](#)

Immune-mediated enteropathies are caused by excessive reactions of the intestinal immune system towards non-pathogenic molecules. Enteropathy leads to malabsorption-related symptoms and include (severe) chronic diarrhea, weight loss and vitamin deficiencies. Parenteral feeding and immunosuppressive therapy are needed in severe cases. Celiac disease has long been recognized as the most common immune-mediated enteropathy in adults, but the spectrum of immune-mediated enteropathies has been expanding. Histological and clinical features are sometimes shared among these enteropathies, and therefore it may be challenging to differentiate between them. Here, we provide an overview of immune-mediated enteropathies focused on clinical presentation, establishing diagnosis, immunopathogenesis, and treatment options.

Keywords: Autoimmune enteropathy; Celiac disease; Common variable immunodeficiency syndrome; Eosinophilic enteritis; Graft-versus-host disease; Immune-mediated enteropathy; Indolent T-cell lymphoma; Olmesartan-associated enteropathy; Refractory celiac disease.

Copyright © 2021 The Authors. Published by Elsevier Ltd.. All rights reserved.

Full text links



78. [**Maternal celiac disease and the risk for long-term infectious morbidity of the offspring**](#)

Am J Reprod Immunol. 2021 Feb 4;e13399. doi: 10.1111/aji.13399. Online ahead of print.

Authors

[Naim Abu-Freha](#)¹, [Tamar Wainstock](#)², [Aerin Philip](#)³, [Eyal Sheiner](#)⁴

Affiliations

- ¹ The Institute of Gastroenterology and Hepatology, The Faculty of Health Sciences, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- ² The Department of Public Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- ³ Medical School for International Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- ⁴ Department of Obstetrics and Gynecology, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- PMID: [33539613](#)
- DOI: [10.1111/aji.13399](#)

Abstract

Problem: Celiac disease is an autoimmune disease, patients with celiac have increased risk for infections, and offspring of celiac mothers have increased morbidity. The aim of the study was to assess long-term infectious morbidity among offspring of pregnant women with celiac disease.

Method of study: A population-based cohort study was conducted, including all singleton deliveries between the years 1991-2014 at a tertiary medical center. The offsprings were subdivided into two groups: offsprings of mothers with and without celiac disease. Data on demographics, maternal, perinatal, and long-term hospitalizations for infectious morbidity were compared between the two groups.

Results: During the study period there were 210 (0.09%) deliveries of mothers with celiac, and they were compared to 242170 (99.91%) deliveries of non-celiac mothers. Cumulative infectious morbidity was significantly higher in offspring of mothers with celiac compared to offspring of mothers without celiac (Kaplan-Meier, log-rank $p = .004$). Specifically, among the offspring of mothers with celiac significantly higher rates of bacteremia was noted (1.0% vs. 0.1%; $p = .001$), and infections of the central nervous system (1% vs. 0.2%; $p = .028$). In the Cox multivariable model which accounted for confounding variables, being born to mothers with celiac disease was associated with

significantly increased risk for long-term infectious morbidity of the offspring (adjusted HR = 1.6, 95% CI 1.165-2.357, p = .005).

Conclusions: Maternal celiac disease is an independent risk factor for long-term infectious morbidity for the offspring.

Keywords: Celiac disease; infectious morbidity; long-term; offspring.

© 2021 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd.

- [31 references](#)

Full text links



79. [Updates on systemic consequences of coeliac disease](#)

Nat Rev Gastroenterol Hepatol. 2021 Feb;18(2):87-88. doi: 10.1038/s41575-020-00387-0.

Author

[Katri Kaukinen](#)^{1 2}

Affiliations

- ¹ Department of Internal Medicine, Tampere University Hospital, Tampere, Finland. katri.kaukinen@tuni.fi.
- ² Faculty of Medicine and Health Technology, Tampere University, Tampere, Finland. katri.kaukinen@tuni.fi.
- PMID: [33199835](#)
- DOI: [10.1038/s41575-020-00387-0](https://doi.org/10.1038/s41575-020-00387-0)

No abstract available

- [10 references](#)

Full text links



80. Proteolysis efficiency and structural traits of corn gluten meal: Impact of different frequency modes of a low-power density ultrasound

Food Chem. 2021 May 15;344:128609. doi: 10.1016/j.foodchem.2020.128609. Epub 2020 Nov 13.

Authors

[Yang Wang](#)¹, [Zhaoli Zhang](#)¹, [Ronghai He](#)², [Benjamin Kumah Mintah](#)², [Mokhtar Dabbour](#)³, [Wenjuan Qu](#)², [Dandan Liu](#)², [Haile Ma](#)⁴

Affiliations

- ¹ School of Food and Biological Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu 212013, China; School of Food Science and Engineering, Yangzhou University, 196 Huayang West Road, Yangzhou, Jiangsu 225127, China.
- ² School of Food and Biological Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu 212013, China.
- ³ School of Food and Biological Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu 212013, China; Department of Agricultural and Biosystems Engineering, Faculty of Agriculture, Benha University, P.O. Box 13736, Moshtohor, Qaluobia, Egypt.
- ⁴ School of Food and Biological Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu 212013, China. Electronic address: mhl@ujs.edu.cn.
- PMID: [33229163](#)
- DOI: [10.1016/j.foodchem.2020.128609](https://doi.org/10.1016/j.foodchem.2020.128609)

Abstract

The influence of varying frequency modes of a low-power density ultrasound (LPDU) on the enzymolysis efficacy and structural property of corn gluten meal (CGM) was investigated. Sonication pretreatment (of CGM) with sequential and simultaneous duple-frequency modes enhanced notably the relative enzymolysis efficiency, compared to other LPDU frequency modes. With a sequential duple-frequency of 20/40 kHz showing the most significant effect, the maximum value of enzymolysis efficiency and protein dissolution rate were 15.99% and 61.69%, respectively. Changes in the surface hydrophobicity, secondary structure and microstructure revealed alterations of conformation of CGM by ultrasound-induced effect. Furthermore, the molecular weight distribution CGM hydrolysates primarily distributed in 200-500 Da following ultrasonication. Sonication efficaciously enhanced the susceptibility of CGM to alcalase proteolysis. Thus, the use of various LPDU frequency modes in pretreating target proteins (CGM) may be considered as a practical approach to improve protein-enzyme reactions (proteolysis).

Keywords: Corn gluten meal; Enzymolysis; Frequency modes; Low-power density ultrasound; Microstructure; Surface hydrophobicity.

Copyright © 2020. Published by Elsevier Ltd.

Full text links



81. [Association Between Proton Pump Inhibitor Use and Risk of Asthma in Children](#)

JAMA Pediatr. 2021 Feb 8;e205710. doi: 10.1001/jamapediatrics.2020.5710.
Online ahead of print.

Authors

[Yun-Han Wang](#)¹, [Viktor Wintzell](#)¹, [Jonas F Ludvigsson](#)^{2 3 4 5}, [Henrik Svanström](#)^{1 6}, [Björn Pasternak](#)^{1 6}

Affiliations

- ¹ Clinical Epidemiology Division, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden.
- ² Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.
- ³ Department of Pediatrics, Örebro University Hospital, Örebro, Sweden.
- ⁴ Division of Epidemiology and Public Health, University of Nottingham School of Medicine, Nottingham, United Kingdom.
- ⁵ Celiac Disease Center, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, New York.
- ⁶ Department of Epidemiology Research, Statens Serum Institut, Copenhagen, Denmark.
- PMID: [33555324](#)
- PMCID: **PMC7871209** (available on 2022-02-08)
- DOI: [10.1001/jamapediatrics.2020.5710](#)

Abstract

Importance: The use of proton pump inhibitors (PPIs) in children has increased substantially in recent years, concurrently with emerging concerns that these drugs may increase the risk of asthma. Whether PPI use in the broad pediatric population is associated with increased risk of asthma is not known.

Objective: To investigate the association between PPI use and risk of asthma in children.

Design, setting, and participants: This nationwide cohort study collected registry data in Sweden from January 1, 2007, to December 31, 2016. Children and adolescents 17 years or younger were matched by age and propensity score into 80 870 pairs of those who initiated PPI use and those who did not. Data were analyzed from February 1 to September 1, 2020.

Exposures: Initiation of PPI use.

Main outcomes and measures: The primary analysis examined the risk of incident asthma with a median follow-up to 3.0 (interquartile range, 2.1-3.0) years. Cox proportional hazards regression was used to estimate hazard ratios (HRs).

Results: Among the 80 870 pairs (63.0% girls; mean [SD] age, 12.9 [4.8] years), those who initiated PPI use had a higher incidence rate of asthma (21.8 events per 1000 person-years) compared with noninitiators (14.0 events per 1000 person-years), with an HR of 1.57 (95% CI, 1.49-1.64). The risk of asthma was significantly increased across all age groups and was highest for infants and toddlers with an HR of 1.83 (95% CI, 1.65-2.03) in the group younger than 6 months and 1.91 (95% CI, 1.65-2.22) in the group 6 months to younger than 2 years ($P < .001$ for interaction). The HRs for individual PPIs were 1.64 (95% CI, 1.50-1.79) for esomeprazole, 1.49 (95% CI, 1.25-1.78) for lansoprazole, 1.43 (95% CI, 1.35-1.51) for omeprazole, and 2.33 (95% CI, 1.30-4.18) for pantoprazole. In analyses of the timing of asthma onset after PPI initiation, the HRs were 1.62 (95% CI, 1.42-1.85) for 0 to 90 days, 1.73 (95% CI, 1.52-1.98) for 91 to 180 days, and 1.53 (95% CI, 1.45-1.62) for 181 days to end of follow-up. The association was consistent through all sensitivity analyses, including high-dimensional propensity score matching (HR, 1.48; 95% CI, 1.41-1.55).

Conclusions and relevance: In this cohort study, initiation of PPI use compared with nonuse was associated with an increased risk of asthma in children. Proton pump inhibitors should be prescribed to children only when clearly indicated, weighing the potential benefit against potential harm.

Conflict of interest statement

Conflict of Interest Disclosures: Dr Ludvigsson coordinates, on behalf of the Swedish IBD quality register (SWIBREG), a study that has received funding from Janssen Global Services, LLC. Dr Svanström reported receiving consulting fees from Celgene Corporation and being employed by IQVIA outside of the submitted work. No other disclosures were reported.

Full text links



82. **Impact of a Gluten-Free Diet on Quality of Life and Health Perception in Patients with Type 1 Diabetes and Asymptomatic Celiac Disease**

J Clin Endocrinol Metab. 2021 Feb 1;dgaa977. doi: 10.1210/clinem/dgaa977. Online ahead of print.

Authors

[Daniel I Weiman](#)¹, [Farid H Mahmud](#)¹, [Antoine B M Clarke](#)¹, [Esther Assor](#)¹, [Charlotte McDonald](#)², [Fred Saibil](#)³, [Heather A Lochnan](#)⁴, [Zubin Punthakee](#)⁵, [Margaret A Marcon](#)⁶

Affiliations

- ¹ Division of Endocrinology, Department of Pediatrics, The Hospital for Sick Children, University of Toronto.
- ² Division of Endocrinology and Metabolism, St. Joseph's Health Care, Western University.
- ³ Division of Gastroenterology, Sunnybrook Health Sciences Centre, University of Toronto.
- ⁴ Department of Medicine and the Ottawa Hospital Research Institute, University of Ottawa.
- ⁵ Division of Endocrinology, McMaster University.
- ⁶ Division of Gastroenterology, Hepatology and Nutrition, Department of Pediatrics, The Hospital for Sick Children, University of Toronto.
- PMID: [33524131](#)
- DOI: [10.1210/clinem/dgaa977](#)

Abstract

Context: Celiac disease (CD) is a common comorbidity seen in patients with type 1 diabetes (T1D) and is frequently asymptomatic. As chronic conditions requiring significant lifestyle changes, there are limited reports assessing

changes in health-related quality of life (HRQoL) during transition to a gluten-free diet (GFD) in patients with both T1D and who are asymptomatic for CD.

Objective: To prospectively assess HRQoL and health perception in children and adults with T1D and asymptomatic CD after randomization to GFD versus usual diet.

Design, setting, and participants: Patients with T1D aged 8–45 years without CD symptoms were serologically screened for CD, with positive results confirmed with intestinal biopsy. Participants were randomized in an open-label fashion to a GFD or gluten-containing diet (GCD) for 12 months. Generic and diabetes-specific HRQoL and self-perceived wellness (SPW) were assessed longitudinally.

Results: 2,387 T1D patients were serologically screened. CD was biopsy-confirmed in 82 patients and 51 participants were randomized to a GFD (N=27) or GCD (N=24). Excellent adherence to the assigned diets was observed. Overall, no changes in generic ($P=0.73$) or diabetes-specific HRQoL ($P=0.30$), or SPW ($P=0.41$) were observed between groups over 12 months. HemoglobinA1c (HbA1c) and GI symptoms were consistent predictors of HRQoL and SPW.

Conclusions: HRQoL and SPW were not significantly impacted by the adoption of a GFD over 12 months, but worsened with symptom onset and increased HbA1c. Our findings indicate that transition to a GFD can be made successfully in this population without adversely impacting quality of life.

Keywords: celiac disease; gluten-free diet; health perception; quality of life; type 1 diabetes.

© The Author(s) 2021. Published by Oxford University Press on behalf of the Endocrine Society. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com.

Full text links



83. **Immunophenotypic Spectrum and Genomic Landscape of Refractory Celiac Disease Type II**

Am J Surg Pathol. 2021 Feb 2. doi: 10.1097/PAS.0000000000001658. Online ahead of print.

Authors

[Craig R Soderquist](#)¹, [Suzanne K Lewis](#), [Alejandro A Gru](#), [George Vlad](#), [Eli S Williams](#), [Susan Hsiao](#), [Mahesh M Mansukhani](#), [David C Park](#), [Carlos E Bacchi](#), [Bachir Alobeid](#), [Peter H Green](#), [Govind Bhagat](#)

Affiliation

- ¹ *Department of Pathology and Cell Biology, Columbia University Irving Medical Center †Department of Medicine, Celiac Disease Center, Columbia University Irving Medical Center, New York, NY ‡Department of Pathology, University of Virginia, Charlottesville, VA §Bacchi Laboratory, Pathology Reference Laboratory, Botucatu, Brazil.
- PMID: [33544565](#)
- DOI: [10.1097/PAS.0000000000001658](#)

Abstract

Refractory celiac disease type II (RCD II), also referred to as "cryptic" enteropathy-associated T-cell lymphoma (EATL) or "intraepithelial T-cell lymphoma," is a rare clonal lymphoproliferative disorder that arises from innate intraepithelial lymphocytes. RCD II has a poor prognosis and frequently evolves to EATL. The pathogenesis of RCD II is not well understood and data regarding the immunophenotypic spectrum of this disease and underlying genetic alterations are limited. To gain further biological insights, we performed comprehensive immunophenotypic, targeted next-generation sequencing, and chromosome microarray analyses of 11 RCD II cases: CD4/CD8 (n=6), CD8 (n=4), and CD4 (n=1), and 2 of 3 ensuing EATLs. Genetic alterations were identified in 9/11 (82%) of the RCD II cases. All 9 displayed mutations in members of the JAK-STAT signaling pathway, including frequent,

recurrent STAT3 (7/9, 78%) and JAK1 (4/9, 44%) mutations, and 9/10 evaluable cases expressed phospho-STAT3. The mutated cases also harbored recurrent alterations in epigenetic regulators (TET2, n=5 and KMT2D, n=5), nuclear factor- κ B (TNFAIP3, n=4), DNA damage repair (POT1, n=3), and immune evasion (CD58, n=2) pathway genes. The CD4/CD8 and other immunophenotypic subtypes of RCD II exhibited similar molecular features. Longitudinal genetic analyses of 4 RCD II cases revealed stable mutation profiles, however, additional mutations were detected in the EATLs, which occurred at extraintestinal sites and were clonally related to antecedent RCD II. Chromosome microarray analysis demonstrated copy number changes in 3/6 RCD II cases, and 1 transformed EATL with sufficient neoplastic burden for informative analysis. Our findings provide novel information about the immunophenotypic and genomic characteristics of RCD II, elucidate early genetic events in EATL pathogenesis, and reveal potential therapeutic targets.

Full text links



84. [Epidemiology and risk of psychiatric disorders among patients with celiac disease: A population-based national study](#)

J Gastroenterol Hepatol. 2021 Feb 8. doi: 10.1111/jgh.15437. Online ahead of print.

Authors

[Motasem Alkhayyat](#)¹, [Thabet Qapaja](#)¹, [Manik Aggarwal](#)¹, [Ashraf Almomani](#)¹, [Mohammad Abureesh](#)², [Omaymah Al-Otoom](#)³, [Mohammad Zmaili](#)¹, [Emad Mansoor](#)⁴, [Mohannad Abou Saleh](#)⁵

Affiliations

- ¹ Department of Internal Medicine, Cleveland Clinic Foundation, Cleveland, Ohio, USA.
- ² Department of Internal Medicine, Staten Island University Hospital, New York City, New York, USA.

- ³ University of Jordan Medical School, University of Jordan, Amman, Jordan.
- ⁴ Department of Gastroenterology, University Hospitals Cleveland Medical Center, Cleveland, Ohio, USA.
- ⁵ Department of Gastroenterology, Hepatology, and Nutrition, Cleveland Clinic Foundation, Cleveland, Ohio, USA.
- PMID: [33554378](#)
- DOI: [10.1111/jgh.15437](#)

Abstract

Background and aim: Celiac disease (CD) is a chronic disorder resulting from an immune reaction to gluten in genetically predisposed individuals. Although several studies have linked CD to psychiatric diseases, there are limited data on this topic. Using a large database, we sought to describe the epidemiology of several psychiatric disorders in CD.

Methods: We queried a multicenter database (Explorys Inc), an aggregate of electronic health record data from 26 major integrated healthcare systems from 2016 to 2020 consisting of 360 hospitals in the USA. A cohort of patients with a Systematized Nomenclature Of Medicine - Clinical Terms diagnosis of CD was identified. Multivariate analysis was performed using Statistical Package for Social Sciences version 25.

Results: Of the 37 465 810 patients in the database between 2016 and 2020, there were 112 340 (0.30%) individuals with CD. When compared with patients with no history of CD, patients with CD were more likely to have a history of anxiety (odds ratio [OR]: 1.385; 95% confidence interval [CI]: 1.364-1.407), depression (OR: 1.918; 95% CI: 1.888-1.947), bipolar (OR: 1.321; 95% CI: 1.289-1.354), attention-deficit hyperactivity disorder (OR: 1.753; 95% CI: 1.714-1.792), eating disorder (OR: 15.84; 95% CI: 15.533-16.154), and childhood autistic disorder (OR: 4.858; 95% CI: 3.626-6.508). Patients with CD and psychiatric conditions were more likely to be smokers, with history of alcohol and substance abuse as well as a history of personality disorder.

Conclusions: In this large database, patients with CD are at increased risk of having multiple psychiatric diseases including anxiety, depression, bipolar, attention-deficit hyperactivity disorder, eating disorder, and childhood autism.

Individual care and referral to psychiatry when appropriate are warranted while taking care of this group of patients.

Keywords: celiac disease; epidemiology; psychiatric disease.

© 2021 Journal of Gastroenterology and Hepatology Foundation and John Wiley & Sons Australia, Ltd.

- [67 references](#)

Full text links



85. [Impact of eHealth technologies on patient outcomes: a meta-analysis of chronic gastrointestinal illness interventions](#)

Transl Behav Med. 2021 Feb 11;11(1):1-10. doi: 10.1093/tbm/ibz166.

Authors

[Jacob A Rohde](#)¹, [Joshua O Barker](#)¹, [Seth M Noar](#)^{1 2}

Affiliations

- ¹ Hussman School of Journalism and Media, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.
- ² Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.
- PMID: [31731292](#)
- DOI: [10.1093/tbm/ibz166](#)

Abstract

Gastrointestinal (GI) illness interventions are increasingly utilizing eHealth technologies, yet little is currently known about the extent of their impact on patient outcomes. The purpose of this study was to conduct a meta-analysis of

the GI eHealth intervention literature. We used a comprehensive search strategy to locate studies. To be included, studies had to be a randomized controlled trial comparing an eHealth intervention condition against a no-treatment or waitlist control condition. Studies had to report data on at least one of the following patient outcomes: medication adherence, quality of life (QoL), psychological distress, illness-related knowledge, or number of patient visits to the clinic/hospital. Analyses weighted effect sizes (d) by their inverse variance and combined them using random effects meta-analytic procedures. $K = 19$ studies conducted in eight countries with a cumulative sample size of $N = 3,193$ were meta-analyzed. Findings indicated that GI eHealth interventions improved patients' QoL ($d = .25$, $p = .008$), psychological distress ($d = .24$, $p = .017$), medication adherence ($d = .17$, $p = .014$), and illness-related knowledge ($d = .19$, $p = .002$). GI eHealth interventions also significantly reduced the number of patient visits to the clinic/hospital ($d = .78$, $p = .005$). Our findings suggest that eHealth interventions hold promise in improving patient outcomes for those with GI illnesses. We suggest the next generation of GI interventions continue developing and evaluating the impact of technology using randomized controlled trial designs, and perhaps consider adapting existing efficacious interventions for burgeoning platforms, such as smartphones and tablets.

Keywords: Celiac disease; Gastrointestinal illness; Inflammatory bowel disease; Irritable bowel syndrome; Meta-analysis; eHealth.

© Society of Behavioral Medicine 2019. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com.

Full text links



86. [Interdisciplinary approach in emergency revascularization and treatment for acute mesenteric ischemia](#)

BMC Surg. 2021 Feb 18;21(1):89. doi: 10.1186/s12893-021-01102-9.

Authors

[Alicja Zientara](#)¹, [Anja-Rebeka Domenghino](#)², [Igor Schwegler](#)², [Hans Bruijnen](#)³, [Annelies Schnider](#)⁴, [Markus Weber](#)⁴, [Stefan Gutknecht](#)⁴, [Nicolas Attigah](#)⁵

Affiliations

- ¹ Department of Cardiothoracic Surgery, Royal Brompton and Harefield Hospital, Harefield, UK.
- ² Department of Vascular Surgery, Triemli Hospital, 497, 8063, Zurich, Switzerland.
- ³ Augsburg City Hospital, Augsburg, Germany.
- ⁴ Department of Visceral Surgery, Triemli Hospital, Zürich, Switzerland.
- ⁵ Department of Vascular Surgery, Triemli Hospital, 497, 8063, Zurich, Switzerland. nicolas.attigah@triemli.zuerich.ch.
- PMID: [33602217](#)
- PMCID: [PMC7890998](#)
- DOI: [10.1186/s12893-021-01102-9](#)

Free PMC article

[Abstract](#)

Background: Mesenteric ischemia is associated with poor outcome and high overall mortality. The aim was to analyze an interdisciplinary treatment approach of vascular and visceral specialists focusing on the in-hospital outcome and follow-up in patients with acute and acute-on-chronic mesenteric ischemia.

Methods: From 2010 until 2017, 26 consecutive patients with acute or acute on chronic mesenteric ischemia were treated by an interdisciplinary team. Data were prospectively collected and retrospectively evaluated. Throughout the initial examination, the extent of bowel resection was determined by the visceral surgeon and the appropriate mode of revascularization by the vascular surgeon. The routine follow-up included clinical examination and ultrasound- or CT-imaging for patency assessment and overall survival as primary endpoint of the study.

Results: Out of 26 patients, 18 (69.2%) were rendered for open repair. Ten patients (38.5%) received reconstruction of the superior mesenteric artery with an iliac-mesenteric bypass. Seven patients (26.9%) underwent thrombectomy of the mesenteric artery. One patient received an infra-diaphragmatic aorto-celiac-mesenteric bypass. Out of the 8 patients, who were not suitable for open revascularization, 2 patients (7.7%) were treated endovascularly and 6 (23.1%) underwent explorative laparotomy. The in-hospital mortality was 23% (n = 6). The mean survival of the revascularized group (n = 20) was 51.8 months (95% CI 39.1-64.5) compared to 15.7 months in the non-revascularized group (n = 6) (95% CI - 4.8-36.1; p = 0.08). The median follow-up was 64.6 months. Primary patency in the 16 patients after open and 2 after interventional revascularization was 100% and 89.9% in the follow-up.

Conclusion: The interdisciplinary treatment of mesenteric ischemia improves survival if carried out in time. Hereby open revascularization measures are advantageous as they allow bowel assessment, resection, and revascularization in a one-stop fashion especially in advanced cases.

Keywords: Acute mesenteric ischemia; Bowel resection; Iliac-mesenteric bypass; Intestinal ischemia; Mesenteric revascularization; Thrombectomy of superior mesenteric artery.

Conflict of interest statement

The authors declare that there is no competing interests.

- [23 references](#)
- [3 figures](#)

Full text links



87. [Symptoms and biomarkers associated with undiagnosed celiac seropositivity](#)

BMC Gastroenterol. 2021 Feb 27;21(1):90. doi: 10.1186/s12876-021-01667-y.

Authors

[Line Lund Kårhus](#)¹, [Janne Petersen](#)^{2 3}, [Katja Biering Leth-Møller](#)², [Line Tang Møllehave](#)², [Anja Lykke Madsen](#)⁴, [Betina Heinsbæk Thuesen](#)², [Peter Schwarz](#)^{5 6}, [Jüri J Rumessen](#)⁷, [Allan Linneberg](#)^{2 6}

Affiliations

- ¹ Center for Clinical Research and Prevention, Bispebjerg and Frederiksberg Hospital, Hovedvejen, Entrance 5, Nordre Fasanvej 57, 2000, Frederiksberg, Copenhagen, Denmark. line.lund.kaarhus@regionh.dk.
- ² Center for Clinical Research and Prevention, Bispebjerg and Frederiksberg Hospital, Hovedvejen, Entrance 5, Nordre Fasanvej 57, 2000, Frederiksberg, Copenhagen, Denmark.
- ³ Section of Biostatistics, Department of Public Health, University of Copenhagen, Copenhagen, Denmark.
- ⁴ The Copenhagen City Heart Study, Bispebjerg and Frederiksberg Hospital, Copenhagen, Denmark.
- ⁵ Department of Endocrinology and Diabetes and Bone-Metabolic Research Unit, Rigshospitalet, Copenhagen, Denmark.
- ⁶ Department of Clinical Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark.
- ⁷ Q&D-Research Unit and Department of Gastroenterology, Herlev and Gentofte Hospital, University of Copenhagen, Copenhagen, Denmark.
- PMID: [33639838](#)
- DOI: [10.1186/s12876-021-01667-y](#)

Abstract

Background: Studies have indicated that underdiagnosis and diagnostic delay are common in celiac disease. Therefore, it is important to increase our knowledge of what symptoms and biomarkers could identify undiagnosed cases of celiac disease.

Methods: We screened for celiac disease antibodies in stored blood samples from 16,776 participants in eight population-based studies examined during 1976-2012. Undiagnosed celiac seropositivity was defined as celiac disease antibody positivity (IgG-deamidated gliadin peptide above 10.0 U/mL and/or

IgA-tissue transglutaminase (TTG) or IgG-TTG above 7.0 U/mL) without a known diagnosis of celiac disease in the National Patient Register. In all studies general health symptoms were recorded by participant-completed questionnaire, including self-perceived health, tiredness, headache and gastrointestinal symptoms. Furthermore, blood samples were drawn for analyses of biomarkers e.g. hemoglobin, blood glucose, cholesterol, liver parameters and vitamins. The participants with undiagnosed celiac seropositivity were matched by sex, age and study with four controls among the celiac disease antibody negative participants.

Results: We excluded, five participants with known celiac disease, resulting in a population of 16,771 participants. In this population 1% (169/16,771) had undiagnosed celiac seropositivity. There were no statistically significant differences in symptoms between cases and controls. Undiagnosed celiac seropositivity was associated with low blood cholesterol (< 5 mmol/L) and low hemoglobin (< 7.3 mmol/L for women and < 8.3 mmol/L for men).

Conclusion: In this general population study, undiagnosed cases of celiac seropositivity did not have more symptoms than controls, confirming the diagnostic difficulties of celiac disease and the low prognostic value of symptoms for a diagnosis of celiac disease. Furthermore, decreased levels of cholesterol and/or hemoglobin in the blood were associated with undiagnosed celiac seropositivity.

Keywords: Antibodies; Biomarkers; Celiac disease; Epidemiology; Screening; Symptoms.

- [36 references](#)

88. [Classification of intestinal T-cell receptor repertoires using machine learning methods can identify patients with coeliac disease regardless of dietary gluten status](#)

J Pathol. 2021 Mar;253(3):279-291. doi: 10.1002/path.5592. Epub 2021 Jan 6.

Authors

[Andrew D Foers](#)¹, [M Saad Shoukat](#)¹, [Oliver E Welsh](#)^{1 2}, [Killian Donovan](#)³, [Russell Petry](#)^{1 2}, [Shelley C Evans](#)¹, [Michael Eb FitzPatrick](#)⁴, [Nadine Collins](#)⁵, [Paul Klenerman](#)^{4 6}, [Anna Fowler](#)^{# 7}, [Elizabeth J Soilleux](#)^{# 1 8}

Affiliations

- ¹ Department of Pathology, University of Cambridge, Cambridge, UK.
- ² Centre for Mathematical Sciences, University of Cambridge, Cambridge, UK.
- ³ Oxford University Medical School, Oxford, UK.
- ⁴ Translational Gastroenterology Unit, Nuffield Department of Medicine, University of Oxford, Oxford, UK.
- ⁵ Department of Molecular Pathology, Royal Surrey NHS Foundation Trust, Guildford, UK.
- ⁶ Peter Medawar Building for Pathogen Research, University of Oxford, Oxford, UK.
- ⁷ Department of Health Data Science, Institute of Population Health, University of Liverpool, Liverpool, UK.
- ⁸ Nuffield Division of Clinical Laboratory Sciences, Radcliffe Department of Medicine, University of Oxford, Oxford, UK.

Contributed equally.

- PMID: [33225446](#)
- DOI: [10.1002/path.5592](#)

Abstract

In coeliac disease (CeD), immune-mediated small intestinal damage is precipitated by gluten, leading to variable symptoms and complications, occasionally including aggressive T-cell lymphoma. Diagnosis, based primarily on histopathological examination of duodenal biopsies, is confounded by poor concordance between pathologists and minimal histological abnormality if insufficient gluten is consumed. CeD pathogenesis involves both CD4⁺ T-cell-mediated gluten recognition and CD8⁺ and $\gamma\delta$ T-cell-mediated inflammation, with a previous study demonstrating a permanent change in $\gamma\delta$ T-cell populations in CeD. We leveraged this understanding and explored the

diagnostic utility of bulk T-cell receptor (TCR) sequencing in assessing duodenal biopsies in CeD. Genomic DNA extracted from duodenal biopsies underwent sequencing for TCR- δ (TRD) (CeD, n = 11; non-CeD, n = 11) and TCR- γ (TRG) (CeD, n = 33; non-CeD, n = 21). We developed a novel machine learning-based analysis of the TCR repertoire, clustering samples by diagnosis. Leave-one-out cross-validation (LOOCV) was performed to validate the classification algorithm. Using TRD repertoire, 100% (22/22) of duodenal biopsies were correctly classified, with a LOOCV accuracy of 91%. Using TCR- γ (TRG) repertoire, 94.4% (51/54) of duodenal biopsies were correctly classified, with LOOCV of 87%. Duodenal biopsy TRG repertoire analysis permitted accurate classification of biopsies from patients with CeD following a strict gluten-free diet for at least 6 months, who would be misclassified by current tests. This result reflects permanent changes to the duodenal $\gamma\delta$ TCR repertoire in CeD, even in the absence of gluten consumption. Our method could complement or replace histopathological diagnosis in CeD and might have particular clinical utility in the diagnostic testing of patients unable to tolerate dietary gluten, and for assessing duodenal biopsies with equivocal features. This approach is generalisable to any TCR/BCR locus and any sequencing platform, with potential to predict diagnosis or prognosis in conditions mediated or modulated by the adaptive immune response. © 2020 The Authors. The Journal of Pathology published by John Wiley & Sons, Ltd. on behalf of The Pathological Society of Great Britain and Ireland.

Keywords: T-cell receptor repertoire; T-lymphocyte; TRD; TRG; clustering; coeliac disease; duodenum; gluten; machine learning.

© 2020 The Authors. The Journal of Pathology published by John Wiley & Sons, Ltd. on behalf of The Pathological Society of Great Britain and Ireland.

- [51 references](#)

Full text links



89. [FODMAP intake in children with coeliac disease influences diet quality and health-](#)

related quality of life and has no impact on gastrointestinal symptoms

Int J Food Sci Nutr. 2021 Feb 4;1-12. doi: 10.1080/09637486.2021.1880553.
Online ahead of print.

Authors

[Samantha Cyrkot](#)¹, [Margaret Marcon](#)², [Herbert Brill](#)³, [Heather Mileski](#)³, [Jenna Dowhaniuk](#)³, [Alena Frankish](#)¹, [Matthew W Carroll](#)^{4 5}, [Rabin Persad](#)^{4 5}, [Justine M Turner](#)^{4 5}, [Diana R Mager](#)^{1 4}

Affiliations

- ¹ Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Canada.
- ² Division of Gastroenterology, Hepatology and Nutrition, Hospital for Sick Children, Toronto, Canada.
- ³ Division of Gastroenterology and Nutrition, McMaster Children's Hospital, Hamilton, Canada.
- ⁴ Department of Pediatrics, University of Alberta, Edmonton, Canada.
- ⁵ Division of Pediatric Gastroenterology and Nutrition, Stollery Children's Hospital, Edmonton, Canada.
- PMID: [33541165](#)
- DOI: [10.1080/09637486.2021.1880553](#)

Abstract

Children with coeliac disease (CD) following the gluten-free diet may experience ongoing gastrointestinal symptoms despite strict adherence. The study objective was to evaluate the association between foods high in fermentable oligo/di/monosaccharides, and polyols (FODMAP) and gastrointestinal symptoms, and the potential implications to diet quality and health-related quality of life in CD children. Dietary intake was studied in age-sex matched children 5-18 years (CD, $n = 46$; non-coeliac mild chronic gastrointestinal complaints [GIC], $n = 46$; healthy controls [HC], $n = 46$). CD children consumed fewer foods high in FODMAPs compared to GIC and HC (p

< .0001). FODMAP intake was not related to gastrointestinal symptoms in CD children ($p > 0.05$) but was positively associated with child health-related quality of life ($p < 0.05$). FODMAP intake from fruits and vegetables was positively associated with diet adequacy and total diet quality in CD children ($p < 0.05$). FODMAP intake may influence diet quality and health-related quality of life but has no impact on gastrointestinal symptoms in CD children.

Keywords: Children; FODMAP; coeliac disease; diet quality; quality of life.

Full text links



90. [Nonbiopsy Approach for Celiac Disease Is Accurate When Using Exact Duodenal Histomorphometry: Prospective Study in 2 Countries](#)

J Clin Gastroenterol. 2021 Mar 1;55(3):227-232. doi: 10.1097/MCG.0000000000001349.

Authors

[Alina Popp](#)^{1 2 3}, [Taina Arvola](#)^{4 5}, [Juha Taavela](#)^{1 2 6}, [Laura Kivelä](#)^{1 2}, [Adina Ene](#)³, [Kaija Laurila](#)^{1 2}, [Päivi Saavalainen](#)⁷, [Markku Mäki](#)^{1 2}, [Kalle Kurppa](#)^{1 2 8 3}

Affiliations

- ¹ Centre for Child Health Research, Tampere University.
- ² Department of Pediatrics, Tampere University Hospital.
- ³ National Institute for Mother and Child Health, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania.
- ⁴ Allergy Centre, Tampere University Hospital, Tampere.
- ⁵ Hämeenlinna Central Hospital, Hämeenlinna.
- ⁶ Central Finland Central Hospital, Jyväskylä.
- ⁷ Research Programs Unit, Immunobiology and Department of Medical Genetics, Haartman Institute, University of Helsinki, Helsinki.

- ⁸ The University Consortium of Seinäjoki, Seinäjoki, Finland.
- PMID: [32301831](#)
- DOI: [10.1097/MCG.0000000000001349](#)

Abstract

Goals: To test the accuracy of serology-based criteria for diagnosing celiac disease utilizing quantitative histomorphometry.

Background: The revised European pediatric guidelines allow noninvasive celiac disease diagnosis for a subgroup of children. However, in some of the studies on this issue, the positive predictive value (PPV) of serology has remained suboptimal, possibly because of challenges of histopathology as the reference standard.

Study: Prospectively enrolled children with transglutaminase 2 antibodies (TGA) above the upper limit of normal (ULN) underwent blood sampling and duodenal biopsy in Finland and Romania. Those with TGA $\geq 10 \times$ ULN, positive endomysium antibodies (EmA), and disease-associated genetics were considered to fulfill triple criteria for celiac disease. Initial histopathologic analysis was conducted using grouped classification, whereupon centralized morphometry was performed.

Results: Altogether 88 (54%) children were triple positive. In local evaluation, 99% of triple-positive children and 73% of children with TGA $< 10 \times$ ULN had celiac disease. These figures increased to 100% and 85% after more precise morphometric analysis. Triple-positive children had more anemia and higher median EmA and liver enzyme values than those with TGA $< 10 \times$ ULN; the groups were comparable in other clinical features and laboratory parameters.

Conclusions: When applied as recommended, the nonbiopsy strategy had already yielded excellent PPV regardless of the site of diagnosis or clinical presentation in the local analysis. PPV further increased to 100% with standardized duodenal morphometry.

Copyright © 2020 Wolters Kluwer Health, Inc. All rights reserved.

- [38 references](#)

Full text links



91. [Renal Denervation and Celiac Ganglionectomy Decrease Mean Arterial Pressure Similarly in Genetically Hypertensive Schlager \(BPH/2J\) Mice](#)

Hypertension. 2021 Feb;77(2):519-528. doi: 10.1161/HYPERTENSIONAHA.119.14069. Epub 2021 Jan 4.

Authors

[Ninitha Asirvatham-Jeyaraj](#)^{# 1 2}, [Madeline M Gauthier](#)^{# 3}, [Christopher T Banek](#)^{1 3}, [Abhismitha Ramesh](#)¹, [Hannah Garver](#)⁴, [Gregory D Fink](#)⁴, [John W Osborn](#)¹

Affiliations

- ¹ From the Department of Integrative Biology and Physiology, University of Minnesota, Minneapolis (M.M.G., C.T.B., A.R., J.W.O.).
- ² Department of Biotechnology, Indian Institute of Technology Madras, Chennai (N.A.-J.).
- ³ Department of Physiology, University of Arizona, Tucson (M.M.G., C.T.B.).
- ⁴ Department of Pharmacology and Toxicology, Michigan State University, East Lansing (H.G., G.D.F.).

Contributed equally.

- PMID: [33390041](#)
- PMCID: [PMC7803455](#)
- DOI: [10.1161/HYPERTENSIONAHA.119.14069](#)

Free PMC article

Abstract

Renal denervation (RDNX) lowers mean arterial pressure (MAP) in patients with resistant hypertension. Less well studied is the effect of celiac ganglionectomy (CGX), a procedure which involves the removal of the nerves innervating the splanchnic vascular bed. We hypothesized that RDNX and CGX would both lower MAP in genetically hypertensive Schlager (BPH/2J) mice through a reduction in sympathetic tone. Telemeters were implanted into the femoral artery in mice to monitor MAP before and after RDNX (n=5), CGX (n=6), or SHAM (n=6). MAP, systolic blood pressure, diastolic blood pressure, and heart rate were recorded for 14 days postoperatively. The MAP response to hexamethonium (10 mg/kg, IP) was measured on control day 3 and postoperative day 10 as a measure of global neurogenic pressor activity. The efficacy of denervation was assessed by measurement of tissue norepinephrine. Control MAP was similar among the 3 groups before surgical treatments (≈ 130 mm Hg). On postoperative day 14, MAP was significantly lower in RDNX (-11 ± 2 mm Hg) and CGX (-11 ± 1 mm Hg) groups compared with their predenervation values. This was not the case in SHAM mice (-5 ± 3 mm Hg). The depressor response to hexamethonium in the RDNX group was significantly smaller on postoperative day 10 (-10 ± 5 mm Hg) compared with baseline control (-25 ± 10 mm Hg). This was not the case in mice in the SHAM (day 10; -28 ± 5 mm Hg) or CGX (day 10; -34 ± 7 mm Hg) group. In conclusion, both renal and splanchnic nerves contribute to hypertension in BPH/2J mice, but likely through different mechanisms.

Keywords: arterial pressure; cause of death; femoral artery; heart rate; hypertension.

- [40 references](#)
- [5 figures](#)

Full text links



92. [Reliability of anti-tissue transglutaminase antibodies in children with malnutrition](#)

Scand J Gastroenterol. 2021 Feb 16;1-4. doi:
10.1080/00365521.2021.1882554. Online ahead of print.

Authors

[Necati Balamtekin](#)¹, [Harun Erdal](#)², [Emira Gençkardeşler](#)³, [Melike Arslan](#)¹

Affiliations

- ¹ Department of Pediatrics, Division of Pediatric Gastroenterology, University of Health Sciences, Gülhane Training and Research Hospital, Ankara, Turkey.
- ² Department of Internal Medicine, Division of Gastroenterology, University of Health Sciences, Gülhane Training and Research Hospital, Ankara, Turkey.
- ³ Department of Pediatrics, University of Health Sciences, Gülhane Training and Research Hospital, Ankara, Turkey.
- PMID: [33590788](#)
- DOI: [10.1080/00365521.2021.1882554](#)

Abstract

Objectives: Serological markers are used in the diagnosis of celiac disease. Among these, the most widely used are tissue transglutaminase antibodies (anti-TG2 antibodies). It has been suggested that the mechanisms that are set in motion by malnutrition cause the tight connections between enterocytes to expand, which allows gluten-derived peptides to pass through the epithelium. This causes the production of anti-TG2 antibodies without the presence of celiac disease.

Methods: The patients who were examined for malnutrition and had their anti-TG2 antibody levels measured at the same time, were accepted into the study. The patients who were investigated for suspected celiac disease, showed no signs of malnutrition, and had their anti-TG2 antibody levels measured were accepted into a control group.

Results: The study population consisted of 126 children with mild malnutrition (54.8% female, 7.44 ± 5.38 years); 89 children with moderate malnutrition (54.8% female, 7.62 ± 5.43 years), and a control group of 200 children (53.2%

female, 7.72 ± 5.05 years). According to the results, anti-TG2 IgG levels were significantly higher among patients in the mild and moderate malnutrition groups compared to patients in the control group ($p = .02$ and $p = .01$, respectively). However, there was no significant difference between the mild and moderate malnutrition groups ($p > .05$).

Conclusions: Malnutrition does not affect anti-TG2 IgA levels in children. However, anti-TG2 IgG levels increase in children suffering from malnutrition. When examining celiac disease, especially in people with a background IgA deficiency, doctors should consider whether malnutrition may be the cause of the increase in serum anti-TG2 IgG levels without celiac disease.

Keywords: Malnutrition; anti-tissue transglutaminase antibodies; children.

Full text links



93. [Quantification of the Hemodynamic Changes of Cirrhosis with Free-Breathing Self-Navigated MRI](#)

J Magn Reson Imaging. 2021 Feb 16. doi: 10.1002/jmri.27488. Online ahead of print.

Authors

[Ryan L Brunsing](#)¹, [Dustin Brown](#)², [Hashem Almahoud](#)², [Yuko Kono](#)^{1 3}, [Rohit Loomba](#)^{3 4 5}, [Irene Vodkin](#)³, [Claude B Sirlin](#)², [Marcus T Alley](#)¹, [Shreyas S Vasanawala](#)¹, [Albert Hsiao](#)²

Affiliations

- ¹ Department of Radiology, Stanford University, Palo Alto, California, USA.
- ² Department of Radiology, University of California San Diego, La Jolla, California, USA.

- ³ Division of Gastroenterology, Department of Medicine, University of California San Diego, La Jolla, California, USA.
- ⁴ Division of Epidemiology, Department of Family Medicine and Preventive Medicine, University of California San Diego, La Jolla, California, USA.
- ⁵ NAFLD Research Center, Department of Medicine, University of California San Diego, La Jolla, California, USA.
- PMID: [33594733](#)
- DOI: [10.1002/jmri.27488](#)

Abstract

Background: Non-invasive assessment of the hemodynamic changes of cirrhosis might help guide management of patients with liver disease but are currently limited.

Purpose: To determine whether free-breathing 4D flow MRI can be used to quantify the hemodynamic effects of cirrhosis and introduce hydraulic circuit indexes of severity.

Study type: Retrospective.

Population: Forty-seven patients including 26 with cirrhosis.

Field strength/sequence: 3 T/free-breathing 4D flow MRI with soft gating and golden-angle view ordering.

Assessment: Measurements of the supra-celiac abdominal aorta, supra-renal abdominal aorta (SRA), celiac trunk (CeT), superior mesenteric artery (SMA), splenic artery (SpA), common hepatic artery (CHA), portal vein (PV), and supra-renal inferior vena cava (IVC) were made by two radiologists. Measures of hepatic vascular resistance (hepatic arterial relative resistance [HARR]; portal resistive index [PRI]) were proposed and calculated.

Statistical analysis: Bland-Altman, Pearson's correlation, Tukey's multiple comparison, and Cohen's kappa. $P < 0.05$ was considered significant.

Results: Forty-four of 47 studies yielded adequate image quality for flow quantification (94%). Arterial structures showed high inter-reader

concordance (range; $\rho = 0.948$ - 0.987) and the IVC ($\rho = 0.972$), with moderate concordance in the PV ($\rho = 0.866$). Conservation of mass analysis showed concordance between large vessels (SRA vs. IVC; $\rho = 0.806$), small vessels (celiac vs. CHA + SpA; $\rho = 0.939$), and across capillary beds (CeT + SMA vs. PV; $\rho = 0.862$). Splanchnic flow was increased in patients with portosystemic shunting (PSS) relative to control patients and patients with cirrhosis without PSS ($P < 0.05$, difference range 0.11-0.68 liter/m). HARR was elevated and PRI was decreased in patients with PSS (3.55 and 1.49, respectively) compared to both the control (2.11/3.18) and non-PSS (2.11/2.35) cohorts.

Data conclusion: 4D flow MRI with self-navigation was technically feasible, showing promise in quantifying the hemodynamic effects of cirrhosis. Proposed quantitative metrics of hepatic vascular resistance correlated with PSS.

Level of evidence: 3 TECHNICAL EFFICACY STAGE: 2.

Keywords: 4D flow; TIPS; cirrhosis; liver; portal vein; splanchnic.

© 2021 International Society for Magnetic Resonance in Medicine.

- [39 references](#)

Full text links



94. [**Colonic paracellular permeability and circulating zonulin-related proteins**](#)

Scand J Gastroenterol. 2021 Feb 3;1-8. doi: 10.1080/00365521.2021.1879247. Online ahead of print.

Authors

[Felipe Meira de-Faria](#)¹, [Olga Bednarska](#)^{1 2}, [Magnus Ström](#)^{1 2}, [Johan D Söderholm](#)^{1 3}, [Susanna A Walter](#)^{1 2}, [Åsa V Keita](#)¹

Affiliations

- ¹ Department of Biomedical and Clinical Sciences, Linköping University, Linköping, Sweden.
- ² Department of Gastroenterology, Linköping University, Linköping, Sweden.
- ³ Department of Surgery, Linköping University, Linköping, Sweden.
- PMID: [33535002](#)
- DOI: [10.1080/00365521.2021.1879247](#)

Abstract

Objective: Irritable bowel syndrome (IBS) is a gut-brain disorder associated with increased gut permeability. Zonulin has been suggested to regulate the gut barrier and claimed to be pre-haptoglobin 2 (pre-HP2) and circulating zonulin is often used as a proxy for gastrointestinal permeability. This study investigated the correlation between colonic paracellular permeability and levels of circulating zonulin and pre-HP2.

Materials and methods: Colonic biopsies from 32 patients with IBS and 15 healthy controls (HC) were used to measure permeability in Ussing chambers and levels of zonulin (Cusabio ELISA). Zonulin was also measured in blood samples from 40 HC, 78 patients with IBS and 20 patients with celiac disease (CeD), before and after a gluten-free diet. In addition, we verified HP genotype and circulating pre-HP2 using a monoclonal pre-HP2 antibody (Bio-Rad) by ELISA.

Results: Increased colonic paracellular permeability correlated positively with zonulin levels in IBS biopsies, but negatively with plasma zonulin. We found no agreement between circulating zonulin and pre-HP2. Genotyping revealed non-specificity of the zonulin kit, as all pre-HP2 non-producers presented detectable levels. Patients with CeD displayed higher pre-HP2 and zonulin levels compared to HC. A gluten-free diet in patients with CeD led to lower serum zonulin and pre-HP2 concentrations.

Conclusions: Our study suggests that neither circulating zonulin nor pre-HP2 mirror colonic permeability. Our data corroborate previous reports showing the inability of the Cusabio zonulin kit to target zonulin and highlights that the results of studies using this kit must be re-examined with caution.

Keywords: Colonic paracellular permeability; ELISA; irritable bowel syndrome; pre-haptoglobin 2; zonulin.

Full text links



95. [**Preliminary results from a multicenter Italian registry on the use of a new branched device for the treatment of thoraco-abdominal aortic aneurysms**](#)

J Vasc Surg. 2021 Feb 3;S0741-5214(21)00143-9. doi: 10.1016/j.jvs.2020.12.092. Online ahead of print.

Authors

[Domenico Angiletta](#)¹, [Gabriele Piffaretti](#)², [Isabella Patruno](#)¹, [Paola Wiesel](#)¹, [Sergio Zacà](#)¹, [Rainhold Perkmann](#)³, [Michele Antonello](#)⁴, [Ruth L Bush](#)⁵, [Raffaele Pulli](#)⁶, [COLT® Registry Group](#)

Affiliations

- ¹ Vascular and Endovascular Surgery - Department of Emergency and Organs Transplantation, "Aldo Moro" University of Bari School of Medicine, (Bari - Italy).
- ² Vascular Surgery- Department of Medicine and Surgery, University of Insubria School of Medicine (Varese - Italy).
- ³ Vascular and Thoracic Surgery - Bolzano Hospital (Bolzano - Italy).
- ⁴ Vascular Surgery - Department of Cardiac, Thoracic and Vascular Sciences, University of Padua School of Medicine (Padua - Italy).
- ⁵ University of Houston College of Medicine (Houston - TX, USA).
- ⁶ Vascular and Endovascular Surgery - Department of Emergency and Organs Transplantation, "Aldo Moro" University of Bari School of Medicine, (Bari - Italy). Electronic address: raffaele.pulli@uniba.it.
- PMID: [33548421](#)

- DOI: [10.1016/j.jvs.2020.12.092](https://doi.org/10.1016/j.jvs.2020.12.092)

Abstract

Objective: The study purpose was to present early outcomes of patients treated for thoraco-abdominal aortic aneurysms or complex abdominal aortic diseases using endovascular repair with a new branched endograft.

Methods: This multicenter, retrospective, observational cohort study included all patients treated with a new branched endograft. All elective patients were treated with a staged operative strategy and spinal drainage. Primary outcomes of interest were technical success, early (≤ 30 days) mortality, and late (≥ 30 days) survival, and freedom from adverse aortic events.

Results: A total of 16 consecutive patients were treated for Crawford's extent type 1 ($n = 1$), type 2 ($n = 7$), type 3 ($n = 1$), and type 4 ($n = 5$), with an additional 2 complex pararenal abdominal aortic lesions (enlarging type 1a endoleak, $n = 1$; anastomotic pseudoaneurysm, $n = 1$). There were 13 (81%) male and 3 (19%) female patients with a median age of 72.5 years (IQR, 69-78). The median diameter of the aortic aneurysm was 65mm (IQR, 58-81mm) and the median EuroSCORE prediction for mortality was 18% (IQR, 12-36). Thoraco-abdominal aortic aneurysm was secondary to a previous dissection in 4 patients. A total of 62/64 (96.9%) visceral vessels were stented. Technical success was achieved in 14 (87.5 %) and cumulative aorta-related mortality rate was 19%. Spinal cord ischemia did not occur. Mean of follow-up was 8 ± 4 months (range, 2-15). No type 1 or type 3 endoleaks were detected. Primary bridging stent patency was 98% (1 asymptomatic thrombotic occlusion of a celiac trunk branch). No aortic reintervention was required.

Conclusions: Endovascular repair of complex aortic aneurysms with this new branched endograft can be performed with high technical success and acceptable morbidity. 19% mortality is quite high but tolerable for such a high-risk cohort. Survival rate was acceptable, and graft-related outcomes at early follow-up included an absence of threatening endoleaks and a high target visceral vessel patency.

Keywords: branched endograft; complex aortic disease; thoraco-abdominal aortic aneurysms.

Full text links



96. **[Double-headed small-bowel capsule endoscopy: Real-world experience from a multi-centre British study](#)**

Dig Liver Dis. 2021 Feb 8;S1590-8658(21)00032-3. doi: 10.1016/j.dld.2021.01.017. Online ahead of print.

Authors

[D E Yung](#)¹, [A R Robertson](#)¹, [M Davie](#)², [R Sidhu](#)³, [M McAlindon](#)³, [I Rahman](#)⁴, [P Patel](#)⁴, [L Sinha](#)⁵, [S Mason](#)⁵, [J Brzezczynska](#)², [S Douglas](#)¹, [J N Plevris](#)⁶, [A Koulaouzidis](#)⁷

Affiliations

- ¹ The Royal Infirmary of Edinburgh, Edinburgh, UK.
- ² The University of Edinburgh, College of Medicine and Veterinary Medicine, Edinburgh, UK.
- ³ Royal Hallamshire Hospital, Sheffield, UK.
- ⁴ Southampton General Hospital, Southampton, UK.
- ⁵ Queen's Hospital, Romford, UK.
- ⁶ The Royal Infirmary of Edinburgh, Edinburgh, UK; The University of Edinburgh, College of Medicine and Veterinary Medicine, Edinburgh, UK.
- ⁷ The Royal Infirmary of Edinburgh, Edinburgh, UK; Department of Social Medicine & Public Health, Faculty of Health Sciences, Pomeranian Medical University, Szczecin, Poland. Electronic address: akoulaouzidis@hotmail.com.
- PMID: [33574013](#)
- DOI: [10.1016/j.dld.2021.01.017](https://doi.org/10.1016/j.dld.2021.01.017)

Abstract

Introduction: Capsule endoscopy (CE) is well established the investigation of small-bowel (SB) pathology. We compared the use of double-headed (DH) capsules, to conventional single-headed (SH), in a real-world patient cohort in the first multicentre British study.

Methods: Over 9 months, patients referred for routine SBCE at 4 tertiary referral centres in the UK underwent DH CE instead of conventional SH using MiroCam[®] MC2000 as per local protocols. One head (L/R) was chosen at random and reported by an expert reviewer. The DH recordings, anonymised and randomised, reported by another expert or re-read after a 4-week interval. For each CE, numbers and types of findings and overall conclusion/diagnosis were compared between SH and DH examinations.

Results: 211 CEs were performed. 7 failed to reach the SB; 204 analysed. Indications were: SB bleeding (n = 94); ?SB inflammation or reassessment of known inflammatory bowel disease (IBD) (n = 84); ?SB neoplasia including suspicious radiological imaging (n = 15); and, others e.g. ?celiac disease (n = 11). For SB bleeding: 27/94 (28.7%) examinations reported differences between SH and DH readings. In 17 (18.1%) the findings were clinically significant. SH CE missed angiectasias (5 pts), SB inflammation (7 pts), oesophagitis (2 pts) and SB masses (2 pts). In 1 patient, the extent of angiectasias seen was greater on the DH reading. For IBD: findings differed in 30/84 (35.7%) of CEs; 11 (13.1%) were clinically significant. In 5, signs of active inflammation were missed by the SH reading. In 6, assessment of extent/severity differed. For ?SB neoplasia findings differed in 2/15 (13.3%) of examinations. Both were clinically significant. For others: 1/11 (9.1%) examinations differed; however, not deemed clinically significant. Overall, use of DH CE impacted the diagnosis in 30/204 (14.7%).

Conclusions: The use of DH CE provides more information with the potential to change clinical diagnosis and therefore management. Therefore, the routine adoption of DH CE in SB assessment should be considered.

Keywords: Bleeding; Capsule endoscopy; Double headed; Inflammatory bowel disease; Neoplasia; Small bowel.

Conflict of interest statement

Declaration of Competing Interest The above authors have no COI but would like to disclose material support for this study by IntroMedic and SynMed.

Full text links



97. [Genome-wide genetic links between amyotrophic lateral sclerosis and autoimmune diseases](#)

BMC Med. 2021 Feb 5;19(1):27. doi: 10.1186/s12916-021-01903-y.

Authors

[Chun Yu Li](#)¹, [Tian Mi Yang](#)¹, [Ru Wei Ou](#)¹, [Qian Qian Wei](#)¹, [Hui Fang Shang](#)²

Affiliations

- ¹ Department of Neurology, Laboratory of Neurodegenerative Disorders, National Clinical Research Center for Geriatric, West China Hospital, Sichuan University, Chengdu, China.
- ² Department of Neurology, Laboratory of Neurodegenerative Disorders, National Clinical Research Center for Geriatric, West China Hospital, Sichuan University, Chengdu, China. hfs Shang2002@126.com.
- PMID: [33541344](#)
- PMCID: [PMC7863260](#)
- DOI: [10.1186/s12916-021-01903-y](#)

Free PMC article

Abstract

Background: Epidemiological and clinical studies have suggested comorbidity between amyotrophic lateral sclerosis (ALS) and autoimmune disorders. However, little is known about their shared genetic architecture.

Methods: To examine the relation between ALS and 10 autoimmune diseases, including asthma, celiac disease (CeD), Crohn's disease (CD), inflammatory bowel disease (IBD), multiple sclerosis (MS), psoriasis, rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), type 1 diabetes (T1D), and ulcerative colitis (UC), and identify shared risk loci, we first estimated the genetic correlation using summary statistics from genome-wide association studies, and then analyzed the genetic enrichment leveraging the conditional false discovery rate statistical method.

Results: We identified a significant positive genetic correlation between ALS and CeD, MS, RA, and SLE, as well as a significant negative genetic correlation between ALS and IBD, UC, and CD. Robust genetic enrichment was observed between ALS and CeD and MS, and moderate enrichment was found between ALS and UC and T1D. Thirteen shared genetic loci were identified, among which five were suggestively significant in another ALS GWAS, namely rs3828599 (GPX3), rs3849943 (C9orf72), rs7154847 (G2E3), rs6571361 (SCFD1), and rs9903355 (GGNBP2). By integrating cis-expression quantitative trait loci analyses in Braineac and GTEx, we further identified GGNBP2, ATXN3, and SLC9A8 as novel ALS risk genes. Functional enrichment analysis indicated that the shared risk genes were involved in four pathways including membrane trafficking, vesicle-mediated transport, ER to Golgi anterograde transport, and transport to the Golgi and subsequent modification.

Conclusions: Our findings demonstrate a specific genetic correlation between ALS and autoimmune diseases and identify shared risk loci, including three novel ALS risk genes. These results provide a better understanding for the pleiotropy of ALS and have implications for future therapeutic trials.

Keywords: Amyotrophic lateral sclerosis; Autoimmunity; Conditional false discovery rate; Genome-wide association study; Pleiotropy.

Conflict of interest statement

The authors declare that they have no competing interests.

- [80 references](#)
- [3 figures](#)

Full text links



98. [The Persian Translation and validation of the celiac disease quality of life questionnaire \(CDQOL\)](#)

Health Qual Life Outcomes. 2021 Feb 10;19(1):52. doi: 10.1186/s12955-021-01694-z.

Authors

[Zeinab Nikniaz](#)¹, [Mohammad Asghari Jafarabadi](#)², [Saeedeh Ghaffarifar](#)³, [Zahra Ravand](#)⁴, [Zahra Akbari Namvar](#)⁴, [Masood Shirmohammadi](#)⁵

Affiliations

- ¹ Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.
- ² Road Traffic Injury Research Center, Department of Epidemiology and Biostatistics, Faculty of Health, Tabriz University of Medical Sciences, Tabriz, Iran.
- ³ Medical Education Research Centre, Health Management and Safety Promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran.
- ⁴ Student Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran.
- ⁵ Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences, Tabriz, Iran. drmasood.shirmohammadi@gmail.com.
- PMID: [33568144](#)
- PMCID: [PMC7876810](#)

- DOI: [10.1186/s12955-021-01694-z](https://doi.org/10.1186/s12955-021-01694-z)

Free PMC article

Abstract

Background: Considering the importance of having a celiac disease-specific measure of the quality of life (QOL) in Persian, the present study aimed to translate the celiac disease quality of life questionnaire (CDQOL) into Persian and evaluate its psychometric properties.

Methods: In this cross-sectional study, the Forward-Backward translation method was used. The content validation ratio (CVR) and the content validity index (CVI) were used for content validity assessment. The construct validity was assessed by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) on 220 celiac patients who were selected randomly from the celiac disease (CD) registry database. The correlations between the result of the Persian version of CDQOL (PCDQOL), self-rated QOL, and short form-36 (SF36) were analyzed using the Pearson correlation test. The internal consistency and test-retest reliability were measured through Cronbach's alpha and intraclass correlation coefficient (ICC).

Results: In the present study, 220 celiac patients with a mean age of 35.54 ± 10.29 years participated. The mean CVI, CVR, and impact score of PCDQOL were 0.98, 0.96, and 4.82 respectively. Using EFA, four factors have extracted that had a good fit in CFA (Chi-square/DF = 1.74, RMSEA: 0.08, and CFI: 0.90, and NFI: 0.90). The results showed that there was a moderate to high correlation between PCDQOL, SF36 ($r: 0.587, p = 0.02$), and self-rated QOL ($r: 0.64, p < 0.001$). The questionnaire had high internal consistency (Cronbach alpha: 0.93) and test-retest reliability (ICC: 0.96 [0.86-0.99]).

Conclusion: The PCDQOL questionnaire could be used by physicians and nutritionists to assess HRQOL in celiac patients in Iran.

Keywords: CDQOL; Celiac disease; Persian; Validation.

Conflict of interest statement

Authors declare no conflict of interest.

- [16 references](#)

- [1 figure](#)

Full text links



99. [Effect of substituting wet corn gluten feed and corn stover for alfalfa hay in total mixed ration silage on lactation performance in dairy cows](#)

Animal. 2021 Feb 5;100013. doi: 10.1016/j.animal.2020.100013. Online ahead of print.

Authors

[G N Zhang](#)¹, [Y Li](#)¹, [C Zhao](#)¹, [X P Fang](#)¹, [Y G Zhang](#)²

Affiliations

- ¹ College of Animal Science and Technology, Northeast Agricultural University, Harbin 150030, China.
- ² College of Animal Science and Technology, Northeast Agricultural University, Harbin 150030, China. Electronic address: zhangyonggen@sina.com.
- PMID: [33558089](#)
- DOI: [10.1016/j.animal.2020.100013](https://doi.org/10.1016/j.animal.2020.100013)

Free article

[Abstract](#)

Wet corn gluten feed (WCGF) is a high moisture feed containing rapidly digestible, non-forage fiber and protein. The objective of this study was to investigate the effect of substituting WCGF and corn stover for alfalfa hay in total mixed ration (TMR) silage on lactation performance and nitrogen balance in dairy cows. Nine multiparous Holstein dairy cows (BW = 532 ± 28.9 kg and day in milk = 136 ± 5.6 d; mean ± SD) were used in a replicated 3 × 3 Latin

square design with 21-d periods (14 d of diet adaption and 7 d of sample collection). Groups were balanced for parity, day in milk, and milk production and consumed one of three treatment diets during each period. The treatment diets were fed as TMR and contained similar concentrate mixtures and corn silage but different proportions of roughage and WCGF. The three treatments were: (1) 0% WCGF, 0% corn stover, and 22.1% alfalfa hay (0% WCGF); (2) 6.9% WCGF, 3.4% corn stover, and 11.8% alfalfa hay (7% WCGF); and (3) 13.3% WCGF, 4.9% corn stover, and 3.9% alfalfa hay (13.3% WCGF). Compared to the 0% WCGF diet, the cows fed the 7% and 13.3% WCGF diets had a higher milk yield and concentration of milk fat, protein, lactose, and total solids. Effective degradability of DM was higher in the cows fed the 7% and 13.3% WCGF diets than it was with the 0% WCGF diet. Cows fed the 13.3% WCGF had a higher CP effective degradability and a lower rumen undegraded protein than cows fed the 0% WCGF diet. The concentration of ruminal volatile fatty acids and ammonia-N was higher in cows fed the 7% and 13.3% WCGF diets than cows fed the 0% WCGF diet. The fecal N was lower in cows fed the 7% and 13.3% WCGF diets than it was in cows fed the 0% WCGF diet. Milk N secretion and milk N as a percent of N intake were higher in cows fed the 13.3% WCGF diet than cows fed the 0% and 7% WCGF diets. In conclusion, it appears that feeding a TMR silage containing WCGF and corn stover in combination, replacing a portion of alfalfa hay, may improve lactation performance and nitrogen utilization for lactating dairy cows.

Keywords: By-products; Milk composition; Nitrogen balance; Nutrient digestibility; Ruminal parameter.

Copyright © 2021. Published by Elsevier B.V.

Full text links



100. [Structure and trends of international sport nutrition research between 2000 and 2018: bibliometric mapping of sport nutrition science](#)

Authors

[Anna Kiss](#)^{1 2}, [Ágoston Temesi](#)³, [Orsolya Tompa](#)³, [Zoltán Lakner](#)³, [Sándor Soós](#)^{4 5}

Affiliations

- ¹ Department of Science Policy and Scientometrics, Library and Information Centre of the Hungarian Academy of Sciences (MTA), Arany János street 1, Budapest, 1050, Hungary. anna.kiss@pro-sharp.hu.
- ² Faculty of Education and Psychology, Eötvös Loránd University, Budapest, Hungary. anna.kiss@pro-sharp.hu.
- ³ Institute of Agribusiness, Department of Food Chain Management, Faculty of Economics and Social Sciences, Szent István University, Gödöllő, Hungary.
- ⁴ Department of Science Policy and Scientometrics, Library and Information Centre of the Hungarian Academy of Sciences (MTA), Arany János street 1, Budapest, 1050, Hungary.
- ⁵ Faculty of Education and Psychology, Eötvös Loránd University, Budapest, Hungary.
- PMID: [33546728](#)
- PMCID: [PMC7866438](#)
- DOI: [10.1186/s12970-021-00409-5](https://doi.org/10.1186/s12970-021-00409-5)

Free PMC article

[Abstract](#)

Background: The tool kits of bibliometrics and science mapping provide a standard methodology to map the knowledge base of specific fields of science. The aim of the present research is the analysis of the recent international trends of sport nutrition science, as well as the primary identification of the research topics and results of sport nutrition science via enhanced bibliometric methods for the 2000-2018 time period.

Methods: Altogether, 3889 publications were included in this study. We identified the most relevant sport nutrition topics by running a community detection algorithm on the proximity network constructed via network text analysis. The key issues and key concepts of sport nutrition topics as well as

their relations were evaluated via network analysis. Besides, we carried a chronological analysis of topics out and a scientometric evaluative analysis was also created.

Results: We identified the four main basic groups from which the 18 most characteristics topics were analyzed. The 18 topics are the following: 'soccer and physiology', 'carbohydrate metabolism', 'muscle physiology: alkalosis and acidosis', 'muscle mass gain and dietary supplementation', 'fluid balance and hydration', 'dietary intake and nutrition knowledge', 'determination of energy need of athletes', 'bone health and female athlete triad', 'hydration strategy', 'body weight management', 'nutritional strategies and human skeletal muscle', 'dietary supplementation of nitrates', 'oxidative stress and dietary supplement use', 'dietary supplement use and doping', 'oxidative stress and inflammation and dietary antioxidants', 'exercise adaptation and nutritional strategies', 'gut microbiota', 'celiac disease'. Regarding the size of the topic, researches on sport nutrition science have put the focus on the following three groups: 'muscle mass gain and dietary supplementation', 'carbohydrate metabolism', 'oxidative stress and dietary supplement use'. The greatest scientific impact can be ascribed to the following topics: 'nutritional strategies and human skeletal muscle', 'dietary supplementation of nitrates', 'body weight management', and 'gut microbiota'.

Conclusions: Scientific output on sport nutrition has continuously been rising between 2000 and 2018. The ratio of topics related to sport nutrition but predominantly connected to basic research has decreased significantly within all publications. The results of this study confirm the role of science mapping in the identification of specific research topics and primary research directions in the field of sport nutrition science.

Keywords: Bibliometric mapping; Network text analysis; Scientometric analysis; Sport nutrition research trends.

Conflict of interest statement

The authors declare that they have no competing interests.

- [29 references](#)
- [13 figures](#)

Full text links



101. [Granular Deposits of IgA in the Skin of Coeliac Patients Without Dermatitis Herpetiformis: A Prospective Multicentric Analysis](#)

Acta Derm Venereol. 2021 Feb 2;101(2):adv00382. doi: 10.2340/00015555-3742.

Authors

[Emiliano Antiga](#)¹, [Roberto Maglie](#), [Gabriele Lami](#), [Alessandro Tozzi](#), [Veronica Bonciolini](#), [Francesca Calella](#), [Beatrice Bianchi](#), [Elena Del Bianco](#), [Daniela Renzi](#), [Edoardo Mazzaresse](#), [Antonino S Calabrò](#), [Marzia Caproni](#)

Affiliation

- ¹ Section of Dermatology, Department of Health Sciences, University of Florence, IT-50125 Florence, Italy.
- PMID: [33426564](#)
- DOI: [10.2340/00015555-3742](#)

Free article

[Abstract](#)

Granular deposits of IgA represent the specific cutaneous marker of dermatitis herpetiformis. The prevalence of IgA deposits in the skin of patients with coeliac disease without dermatitis herpetiformis remains unknown. In this prospective case-control study, skin biopsies from newly diagnosed coeliac patients without dermatitis herpetiformis were analysed by direct immunofluorescence. Controls included healthy volunteers and patients with both bowel symptoms and skin eruptions unrelated to coeliac disease. Clinical data and serum level of anti-tissue transglutaminase and anti-epidermal

transglutaminase IgA antibodies were collected from patients and controls. Granular deposits of IgA or IgA1 in the skin were found in 29 out of 45 patients with coeliac disease (64.4%), and in none of the included controls (specificity 100%; sensitivity 64.4%). Positive direct immunofluorescence correlated significantly with an increased serum level of anti-epidermal transglutaminase IgA antibodies ($p < 0.005$). This study shows that granular deposits of IgA represent a low sensitive, but highly specific, cutaneous marker of coeliac disease independent of dermatitis herpetiformis.

Keywords: coeliac disease; dermatitis herpetiformis; direct immunofluorescence; epidermal transglutaminase; gastroenterology; granular deposit; immunoglobulin A; general dermatology.

Full text links



102. [Meta-analysis of outcomes after intentional coverage of celiac artery in thoracic endovascular aortic repair](#)

J Vasc Surg. 2021 Feb 13;S0741-5214(21)00197-X. doi: 10.1016/j.jvs.2021.01.053. Online ahead of print.

Authors

[Maonan Han](#)¹, [Jiarong Wang](#)², [Jichun Zhao](#)³, [Yukui Ma](#)², [Bin Huang](#)², [Ding Yuan](#)², [Yi Yang](#)²

Affiliations

- ¹ Department of Vascular Surgery, West China Hospital; West China School of Medicine, Sichuan University, Chengdu, China.
- ² Department of Vascular Surgery, West China Hospital.
- ³ Department of Vascular Surgery, West China Hospital. Electronic address: zhaojc3@163.com.
- PMID: [33592296](#)

- DOI: [10.1016/j.jvs.2021.01.053](https://doi.org/10.1016/j.jvs.2021.01.053)

Abstract

Objective: The aim of this study was to demonstrate clinical outcomes of intentional coverage of celiac artery (CA) during thoracic endovascular aneurysm repair (TEVAR).

Methods: MEDLINE, EMBASE, and Cochrane Library were searched for studies reporting coverage of CA during TEVAR. The methodological quality of included studies was assessed by means of the Moga-Score and Newcastle-Ottawa scale. Random-effects model was used to pool estimates. A meta-analysis was performed with investigation of the following outcomes: visceral ischemia, spinal cord ischemia (SCI), stroke, endoleaks, reintervention, 30-day mortality and 1-year mortality.

Results: Ten studies with 171 patients were included. The summary estimate rate of visceral ischemia events was 4.2% (95% CI, 0.9-8.9%; $I^2=4.1\%$). The incidences of stroke and SCI were 0.2% (95% CI, 0-3.4%; $I^2=0\%$) and 3% (95% CI, 0.3-7.4%; $I^2=6.1\%$). The rate of endoleak during the follow-up period was 24.1% (95% CI, 14.3-35.1%; $I^2=20.0\%$). Furthermore, reintervention rate was 13.6% (95% CI, 4.4-25.7; $I^2=66.0\%$). The 30-day and 1-year mortality were 2.9% (95% CI, 0.3-7.2%; $I^2=6.2\%$) and 15.2% (95% CI, 7.8-23.9%; $I^2=0\%$).

Conclusions: Among the patients with complex thoracic aortic pathologies deemed at high risk for open reconstruction, TEVAR with intentional coverage of CA is a safe and feasible option to extend the distal sealing zone with acceptable rates of visceral ischemia, SCI, type II endoleak from the CA and 30-day mortality.

Keywords: Meta-analysis; Thoracic endovascular aortic repair; celiac artery coverage.

Copyright © 2021. Published by Elsevier Inc.

Full text links



103. **Evaluation of flour protein for different bread wheat genotypes**

Braz J Biol. 2021 Feb 12;81(3):719-727. doi: 10.1590/1519-6984.230403. eCollection 2021.

Authors

[M A Abdelaleem](#)¹, [K F Al-Azab](#)¹

Affiliation

- ¹ Plant Research Department, Nuclear Research Center, Atomic Energy Authority, Cairo 13759, Egypt.
- PMID: [33605300](#)
- DOI: [10.1590/1519-6984.230403](#)

Free article

[Abstract](#)

Six different bread wheat genotypes; two Egyptian commercial varieties (control); Giza-168 and Gemmeiza-11, and four promising lines; L84 and L148, resulted via hybridization and M10 and M34 via radiation mutation program) were rheologically evaluated using extensograph and for protein, analysis using sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE). The radiation mutant M10 and M34 had the highest maximum resistance which is a very good indicator of strong gluten. The amount of gluten content was higher in M10, L148, and M34 compared to the control samples Gz168 and Gm11. Sulfide amino acids (CYS and MET) are slightly higher in M10. The electrophoretic results and amino acid analyzers show that the best technological quality was exhibited by M10. Radiation mutants wheat genotypes have a protein with good characteristics, mainly gluten which is significantly higher compared to control samples. The rheological properties measured as extensograph and gel electrophoresis were much better in irradiated lines M10 and M34.

Full text links

104. [Gluten-induced RNA methylation changes regulate intestinal inflammation via allele-specific *XPO1* translation in epithelial cells](#)

Gut. 2021 Feb 1;gutjnl-2020-322566. doi: 10.1136/gutjnl-2020-322566. Online ahead of print.

Authors

[Ane Olazagoitia-Garmendia](#)^{1 2}, [Linda Zhang](#)³, [Paula Mera](#)^{4 5}, [Julie K Godbout](#)⁶, [Maialen Sebastian-DelaCruz](#)^{1 2}, [Iraia Garcia-Santisteban](#)¹, [Luis Manuel Mendoza](#)¹, [Alain Huerta](#)⁷, [Iñaki Irastorza](#)⁸, [Govind Bhagat](#)⁹, [Peter H Green](#)⁹, [Laura Herrero](#)^{4 5}, [Dolors Serra](#)^{4 5}, [Jose Antonio Rodriguez](#)¹, [Elena F Verdu](#)⁶, [Chuan He](#)³, [Jose Ramon Bilbao](#)^{1 2 10}, [Ainara Castellanos-Rubio](#)^{11 2 10 12}

Affiliations

- ¹ Department of Genetics, Physical Anthropology and Animal Physiology, University of the Basque Country (UPV-EHU), Leioa, Spain.
- ² Biocruces Bizkaia Health Research Institute, Barakaldo, Spain.
- ³ Department of Chemistry, Department of Biochemistry and Molecular Biology, Howard Hughes Medical Institute, University of Chicago, Chicago, Illinois, USA.
- ⁴ Department of Biochemistry and Physiology, School of Pharmacy and Food Sciences, Institut de Biomedicina de la Universitat de Barcelona (IBUB), Barcelona, Spain.
- ⁵ Centro de Investigación Biomédica en Red de Fisiopatología de la Obesidad y la Nutrición (CIBEROBN), Instituto de Salud Carlos III, Madrid, Spain.
- ⁶ Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, Ontario, Canada.
- ⁷ Enfermedades Digestivas, Hospital de Galdakao-Usansolo, Galdacano, Spain.
- ⁸ Department of Pediatrics, University of the Basque Country (UPV-EHU), Leioa, Spain.

- ⁹ Celiac Disease Center, Department of Medicine, Columbia University Medical Center, New York, NY, USA.
- ¹⁰ CIBER de Diabetes y Enfermedades Metabólicas Asociadas (CIBERDEM), Instituto de Salud Carlos III, Madrid, Spain.
- ¹¹ Department of Genetics, Physical Anthropology and Animal Physiology, University of the Basque Country (UPV-EHU), Leioa, Spain ainara.castellanos@ehu.eus.
- ¹² Ikerbasque, Basque Foundation for Science, Bilbao, Spain.
- PMID: [33526437](https://pubmed.ncbi.nlm.nih.gov/33526437/)
- DOI: [10.1136/gutjnl-2020-322566](https://doi.org/10.1136/gutjnl-2020-322566)

Abstract

Objectives: Coeliac disease (CD) is a complex autoimmune disorder that develops in genetically susceptible individuals. Dietary gluten triggers an immune response for which the only available treatment so far is a strict, lifelong gluten free diet. Human leucocyte antigen (HLA) genes and several non-HLA regions have been associated with the genetic susceptibility to CD, but their role in the pathogenesis of the disease is still essentially unknown, making it complicated to develop much needed non-dietary treatments. Here, we describe the functional involvement of a CD-associated single-nucleotide polymorphism (SNP) located in the 5'UTR of *XPO1* in the inflammatory environment characteristic of the coeliac intestinal epithelium.

Design: The function of the CD-associated SNP was investigated using an intestinal cell line heterozygous for the SNP, N6-methyladenosine (m⁶A)-related knock-out and HLA-DQ2 mice, and human samples from patients with CD.

Results: Individuals harbouring the risk allele had higher m⁶A methylation in the 5'UTR of *XPO1* RNA, rendering greater *XPO1* protein amounts that led to downstream nuclear factor kappa B (NFkB) activity and subsequent inflammation. Furthermore, gluten exposure increased overall m⁶A methylation in humans as well as in in vitro and in vivo models.

Conclusion: We identify a novel m⁶A-XPO1-NFkB pathway that is activated in CD patients. The findings will prompt the development of new therapeutic

approaches directed at m⁶A proteins and XPO1, a target under evaluation for the treatment of intestinal disorders.

Keywords: celiac disease; gluten; inflammation; intestinal gene regulation; methylation.

© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: None declared.

Full text links



105. [Distinctive Microbial Signatures and Gut-Brain Crosstalk in Pediatric Patients with Coeliac Disease and Type 1 Diabetes Mellitus](#)

Int J Mol Sci. 2021 Feb 3;22(4):1511. doi: 10.3390/ijms22041511.

Authors

[Parul Singh](#)^{1 2}, [Arun Rawat](#)¹, [Bara Al-Jarrah](#)¹, [Saras Saraswathi](#)³, [Hoda Gad](#)⁴, [Mamoun Elawad](#)³, [Khalid Hussain](#)⁵, [Mohammed A Hendaus](#)⁶, [Wesam Al-Masri](#)³, [Rayaz A Malik](#)⁴, [Souhaila Al Khodor](#)¹, [Anthony K Akobeng](#)^{3 4}

Affiliations

- ¹ Research Department, Sidra Medicine, Doha 26999, Qatar.
- ² College of Health & Life Sciences, Hamad Bin Khalifa University (HBKU), Qatar Foundation (QF), Doha 24404, Qatar.
- ³ Division of Gastroenterology, Hepatology, and Nutrition, Sidra Medicine, Doha 26999, Qatar.

- ⁴ Department Medicine, Weill Cornell Medicine-Qatar, Doha 24144, Qatar.
- ⁵ Division of Endocrinology, Sidra Medicine, Doha 26999, Qatar.
- ⁶ Division of General Pediatrics, Sidra Medicine, Doha 26999, Qatar.
- PMID: [33546364](#)
- PMCID: [PMC7913584](#)
- DOI: [10.3390/ijms22041511](#)

Free PMC article

[Abstract](#)

Coeliac disease (CD) and Type 1 diabetes mellitus (T1DM) are immune-mediated diseases. Emerging evidence suggests that dysbiosis in the gut microbiome plays a role in the pathogenesis of both diseases and may also be associated with the development of neuropathy. The primary goal in this cross-sectional pilot study was to identify whether there are distinct gut microbiota alterations in children with CD ($n = 19$), T1DM ($n = 18$) and both CD and T1DM ($n = 9$) compared to healthy controls ($n = 12$). Our second goal was to explore the relationship between neuropathy (corneal nerve fiber damage) and the gut microbiome composition. Microbiota composition was determined by 16S rRNA gene sequencing. Corneal confocal microscopy was used to determine nerve fiber damage. There was a significant difference in the overall microbial diversity between the four groups with healthy controls having a greater microbial diversity as compared to the patients. The abundance of pathogenic proteobacteria *Shigella* and *E. coli* were significantly higher in CD patients. Differential abundance analysis showed that several bacterial amplicon sequence variants (ASVs) distinguished CD from T1DM. The tissue transglutaminase antibody correlated significantly with a decrease in gut microbial diversity. Furthermore, the Bacteroidetes phylum, specifically the genus *Parabacteroides* was significantly correlated with corneal nerve fiber loss in the subjects with neuropathic damage belonging to the diseased groups. We conclude that disease-specific gut microbial features traceable down to the ASV level distinguish children with CD from T1DM and specific gut microbial signatures may be associated with small fiber neuropathy. Further research on the mechanisms linking altered microbial diversity with neuropathy are warranted.

Keywords: T1DM; children; coeliac disease; corneal confocal microscopy; gut microbiota; pediatric neuropathy.

Conflict of interest statement

The authors declare no conflict of interest.

- [104 references](#)
- [7 figures](#)

Full text links



106. [Hydrothermal Treatments Cause Wheat Gluten-Derived Peptides to Form Amyloid-like Fibrils](#)

J Agric Food Chem. 2021 Feb 17;69(6):1963-1974. doi: 10.1021/acs.jafc.0c05868. Epub 2021 Feb 5.

Authors

[Marlies A Lambrecht](#)¹, [Margarita Monge-Morera](#)¹, [Thibault Godefroidt](#)¹, [Nele Vluymans](#)¹, [Lomme J Deleu](#)¹, [Peter Goos](#)², [Joost Schymkowitz](#)^{3 4}, [Frederic Rousseau](#)^{3 4}, [Jan A Delcour](#)¹

Affiliations

- ¹ Laboratory of Food Chemistry and Biochemistry and Leuven Food Science and Nutrition Research Centre (LFoRCe), KU Leuven, Kasteelpark Arenberg 20, B-3001 Leuven, Belgium.
- ² Division of Mechatronics, Biostatistics and Sensors (MeBioS), KU Leuven, Kasteelpark Arenberg 30, B-3001 Leuven, Belgium.
- ³ Switch Laboratory, VIB, B-3000 Leuven, Belgium.
- ⁴ Department of Cellular and Molecular Medicine, KU Leuven, Herestraat 49, B-3001 Leuven, Belgium.
- PMID: [33544593](#)

- DOI: [10.1021/acs.jafc.0c05868](https://doi.org/10.1021/acs.jafc.0c05868)

Abstract

Formation of amyloid fibrils (*i.e.*, protein structures containing a compact core of ordered β -sheet structures) from food proteins can improve their techno-functional properties. Wheat gluten is the most consumed cereal protein by humans and extensively present in food and feed systems. Hydrolysis of wheat gluten increases the solubility of its proteins and brings new opportunities for value creation. In this study, the formation of amyloid-like fibrils (ALFs) from wheat gluten peptides (WGPs) under food relevant processing conditions was investigated. Different hydrothermal treatments were tested to maximize the formation of straight ALFs from WGPs. Thioflavin T (ThT) fluorescence measurements and transmission electron microscopy (TEM) were performed to study the extent of fibrillation and the morphology of the fibrils, respectively. First, the formation of fibrils by heating solutions of tryptic WGPs [degrees of hydrolysis 2.0% (DH 2) or 6.0% (DH 6)] was optimized using a response surface design. WGP solutions were incubated at different pH values, times, and temperatures. DH 6 WGPs had a higher propensity for fibrillation than did DH 2 WGPs. Heating DH 6 WGPs at 2.0% (w/v) for 38 h at 85 °C and pH 7.0 resulted in optimal fibrillation. Second, trypsin, chymotrypsin, thermolysin, papain, and proteinase K were used to produce different DH 6 WGPs. After enzyme inactivation and subsequent heating at optimal fibrillation conditions, chymotrypsin and proteinase K DH 6 WGPs produced small worm-like fibrils, whereas fibrils prepared from trypsin DH 6 WGPs were long and straight. The surface hydrophobicity of the peptides was key for fibrillation. Third, peptides from the wheat gluten components gliadin and glutenin fractions formed smaller and worm-like fibrils than did WGPs. Thus, the peptides of both gluten protein fractions jointly contribute to gluten fibrillation.

Keywords: amyloid; gliadin; glutenin; thioflavin T; trypsin.

Full text links



107. [Response to Letter: 'Serological exclusion of coeliac disease: an audit of anti-tissue](#)

transglutaminase and immunoglobulin A testing'

Eur J Gastroenterol Hepatol. 2021 Feb 1;32(2):300. doi: 10.1097/MEG.0000000000001770.

Authors

[Anat Guz-Mark](#)¹, [Raanan Shamir](#)

Affiliation

- ¹ Institute of Gastroenterology, Nutrition and Liver Disease, Schneider Children's Medical Center, Sackler Faculty of Medicine, Tel Aviv University, Israel.
- PMID: [33369957](#)
- DOI: [10.1097/MEG.0000000000001770](#)

No abstract available

- [2 references](#)

Full text links



108. [Processing a 100% legume pasta in a classical extruder without agglomeration during mixing](#)

J Food Sci. 2021 Feb 2. doi: 10.1111/1750-3841.15604. Online ahead of print.

Authors

[Karima Laleg](#)¹, [Denis Cassan](#)¹, [Joël Abecassis](#)¹, [Valérie Micard](#)¹

Affiliation

- ¹ IATE, Univ Montpellier, INRAE, Institut Agro, Montpellier, France.
- PMID: [33533024](#)
- DOI: [10.1111/1750-3841.15604](#)

Abstract

Pasta made exclusively from legume has high nutritional potential (rich in protein and gluten free). However, it is difficult to produce 100% legume dough suitable for the extrusion step in pasta production that comprises hydration, mixing, and extrusion. This paper addresses the biochemical phenomena at the origin of the agglomeration of dough particles frequently reported in the literature, which results in very sticky dough that cannot be extruded. We tested changes in mixing conditions including mixing temperature, addition of antioxidants, and flour pretreatment. Our results suggest that enzymatic reactions, notably lipoxygenase related redox activity, are responsible for this impairment of dough mixing and extrusion. Some of the process conditions studied can be applied at industrial scale and will help produce a legume food with nutritional and culinary qualities, beneficial for people with celiac disease, or gluten intolerance, as well as the general population. PRACTICAL APPLICATION: In the context of a sustainable and healthy food transition, the food industry is developing legume-based food of high nutritional quality that is widely consumed, like pasta. However, using legumes often leads to technological problems during the mixing and extrusion of pasta. This article demonstrates they are linked to enzymatic oxidative phenomena and provides an easy solution to reduce the problems without drastically changing pasta processing. Applied at industrial scale, it will allow the production of naturally gluten-free pasta rich in protein (two to three times the protein content of wheat pasta), of good nutritional quality.

Keywords: antioxidant; extrusion; faba; lentil; red-ox enzymes; wheat.

© 2021 The Authors. Journal of Food Science published by Wiley Periodicals LLC on behalf of Institute of Food Technologists.

- [21 references](#)

Full text links



109. [\[Robot-assisted Distal Pancreatectomy with En Bloc Celiac Axis Resection \(Modified Appleby Procedure\) after Neoadjuvant Therapy\]](#)

Zentralbl Chir. 2021 Feb 3. doi: 10.1055/a-1333-3667. Online ahead of print.
[Article in German]

Authors

[Michael Thomaschewski](#)¹, [Markus Zimmermann](#)¹, [Kim Honselmann](#)¹, [Charlotte Friederike Müller-Debus](#)¹, [Fabian Jacob](#)², [Ulrich Friedrich Wellner](#)¹, [Tobias Keck](#)¹, [Dirk Bausch](#)¹

Affiliations

- ¹ Klinik für Chirurgie, Universitätsklinikum Schleswig-Holstein, Campus Lübeck, Deutschland.
- ² Klinik für Radiologie und Nuklearmedizin, Universitätsklinikum Schleswig-Holstein, Campus Lübeck, Deutschland.
- PMID: [33535267](#)
- DOI: [10.1055/a-1333-3667](#)

Abstract

in [English, German](#)

Pancreatic carcinoma in the body and on the left side of the mesentericoportal axis is often only detected in late stages owing to unspecific or even missing clinical symptoms. In approximately 20% of the cases, there is already infiltration of the tumour into the surrounding arteries or veins. Despite locally advanced growth, 30% of patients do not have distant metastases and would potentially qualify for local resection. Arterial resections and vascular reconstruction are associated with an almost 9-fold

increase in postoperative mortality compared with resections without vascular reconstruction. The Appleby procedure is a complex surgical technique originally developed for advanced gastric cancer. The technique has been further developed for patients with advanced pancreatic body and tail tumours with infiltration of the coeliac trunk (modified Appleby procedure). The advantage of the procedure is that technically, no reconstruction of the resected arteries is required. This is because a natural internal anastomosis in the pancreatic head between the A. mesenterica superior and the A. hepatica via branches of the A. gastroduodenalis is used to maintain liver perfusion and gastric blood flow. However, the surgical procedure is also associated with high morbidity and mortality, with comparably poor oncological results (R0 rates of approximately 60%). Therefore, the procedure was not recommended until a few years ago, and patients were considered inoperable. With developments in neoadjuvant therapy for pancreatic carcinoma, the Appleby procedure is being performed more frequently, with the goal of improving oncological outcomes in the context of multimodal treatment. With developments in robotics in visceral surgery, the previous limitations of minimally invasive pancreatic surgery can be overcome, and significantly more patients may benefit from the advantages of this minimally invasive surgery, such as faster convalescence. The use of robotic surgical techniques allows the extension of minimally invasive techniques into the field of complex vessel resection and reconstruction. In this video contribution, we describe a robot-assisted modified Appleby procedure using the Da Vinci Xi Surgical System in a patient with advanced pancreatic carcinoma of the pancreatic body, after neoadjuvant therapy.

Das Pankreaskarzinom im Bereich des Korpus und linksseitig der mesenterikoportalen Achse wird wegen der unspezifischen oder gar fehlenden klinischen Symptome häufig erst in späten Stadien erkannt, wobei in etwa 20% der Fälle bereits eine Infiltration der umliegenden arteriellen oder venösen Gefäße vorliegt. Trotz eines lokal fortgeschrittenen Wachstums (T4, UICC-Stadium III) weisen 30% der Patienten keine Fernmetastasen auf und würden sich potenziell für eine lokale Resektion qualifizieren. Arterielle Resektionen mit Anastomosierung und Gefäßrekonstruktion sind einschränkend mit einer fast 9-fach erhöhten Mortalität des Eingriffs im Vergleich zu Resektionen ohne Gefäßrekonstruktion verbunden. Die Appleby-Operation stellt eine komplexe Operationstechnik dar, die ursprünglich für das fortgeschrittene Magenkarzinom entwickelt wurde. Die Adaptation der Technik wurde für Patienten mit fortgeschrittenen Pankreaskorpus- und

Pankreasschwanztumoren mit einer Infiltration des Truncus coeliacus weiterentwickelt. Der Vorteil der Operation besteht darin, dass technisch keine Rekonstruktion der resezierten Arterien erfolgen muss, da man sich eine natürliche interne Anastomose im Pankreaskopf zwischen der A. mesenterica superior und der A. hepatica über Äste der A. gastroduodenalis zum Erhalt der Leberperfusion und der Magendurchblutung zu Nutze macht. Das Operationsverfahren ist jedoch ebenso mit einer hohen Morbidität und Mortalität verbunden mit vergleichbar schlechten onkologischen Ergebnissen (R0-Raten ca. 60%), sodass das Verfahren bis vor einigen Jahren nicht empfohlen wurde und die Patienten als inoperabel galten. Im Zuge der Entwicklung neoadjuvanter Therapieverfahren beim Pankreaskarzinom wird die Appleby-Operation wieder häufiger durchgeführt, da der Bedarf an lokal radikal resezierenden Operationsverfahren und Techniken im Kontext der multimodalen Behandlung gestiegen ist. Im Zuge der derzeitigen Etablierung der Robotik in der Viszeralchirurgie könnten bisherige Limitationen der minimalinvasiven Pankreaschirurgie überwunden werden und deutlich mehr Patienten die Vorteile der minimalinvasiven Chirurgie – wie eine schnellere Rekonvaleszenz – ermöglicht werden. Der Einsatz robotischer Operationsverfahren ermöglicht die Erweiterung minimalinvasiver Techniken in den Bereich der komplexen Gefäßresektion und Rekonstruktion. Im vorliegenden Videobeitrag beschreiben wir eine robotisch assistierte modifizierte Appleby-Operation mit dem Einsatz des Da Vinci Xi Surgical System bei einer Patientin mit einem fortgeschrittenen Pankreaskorpuskarzinom nach neoadjuvanter Therapie.

Thieme. All rights reserved.

Conflict of interest statement

Die Autorinnen/Autoren geben an, dass kein Interessenkonflikt besteht.

Full text links



110. [**Diagnosis of celiac disease is being missed in over 80% of children particularly in**](#)

those from socioeconomically deprived backgrounds

Eur J Pediatr. 2021 Feb 10. doi: 10.1007/s00431-021-03974-8. Online ahead of print.

Authors

[Jessica Whitburn](#)¹, [Srinivasa R Rao](#)¹, [Siba Prosad Paul](#)^{2 3}, [Bhupinder Kaur Sandhu](#)^{4 5}

Affiliations

- ¹ Nuffield Department of Surgical Sciences, University of Oxford, Oxford, UK.
- ² Department of Pediatrics, Yeovil District Hospital, Level 10, Higher Kingston, Yeovil, BA21 4AT, UK. siba@doctors.org.uk.
- ³ Department of Pediatric Gastroenterology, Bristol Royal Hospital for Children, Bristol, UK. siba@doctors.org.uk.
- ⁴ Department of Pediatric Gastroenterology, Bristol Royal Hospital for Children, Bristol, UK.
- ⁵ Centre for Child and Adolescent Health, Universities of Bristol and the West of England, Bristol, UK.
- PMID: [33569662](#)
- DOI: [10.1007/s00431-021-03974-8](https://doi.org/10.1007/s00431-021-03974-8)

Abstract

Population-based screening studies have documented prevalence of celiac disease (CD) at 1% at age 7 years, but 90% of children remain undiagnosed. This prospective cohort study aims to examine whether observed differences in diagnosis rates of CD exist between children from different socioeconomic groups and how this has changed over a 12-year period. All children aged ≤15 years with a postcode within South West of England (SWE) diagnosed with CD during a 12-year period (1999-2010) when all diagnoses were based on endoscopic histology were included in the study. The incidence rates in socioeconomic groups were determined using the Index of Multiple Deprivation Score and Office of National Statistics population data. Four

hundred fifteen children were diagnosed with CD; 65 within the City of Bristol (CoB). Diagnosis rate rose 4.2 times in SWE and 3.1 times in CoB between the first and last 4 years of the study. The rate was 1.6 times higher in the least socioeconomically deprived compared to most deprived (2.2 times in CoB), and the gap widened over the 12 years. Missed cases estimates for CoB and SWE are at least 83% and 91%, respectively. Conclusion: These findings suggest that while incidence of diagnosed CD in children has increased over a 12-year period, 83-91% remained undiagnosed. Socioeconomically deprived children are more likely to be underdiagnosed, and the gap between the least and most deprived has widened. To fully address massive underdiagnosis, further strategies including pilot studies using finger prick serological mass screening for CD in children entering primary schools are needed. What is Known: • Epidemiological studies record a 1% prevalence of celiac disease (CD), but up to 90% of children may remain undiagnosed. • Previous studies have documented an increased incidence of CD in higher socioeconomic groups, but proposed reasons remain conflicting. What is New: • Incidence of diagnosed CD has gone up across all social classes but more so in higher socioeconomic groups and there is an increasing health/wealth gap. • This study estimates that 83-91% of children with CD are still being missed despite improved and easily available serological testing and suggest that population screening should be reconsidered.

Keywords: Biopsy; Celiac disease; Child; Health/wealth gap; Missed diagnosis; Socioeconomic.

- [23 references](#)

Full text links



111. [**Etiological profile of diarrhea in solid organ transplant recipients at a tertiary care center in Southern India**](#)

Transpl Infect Dis. 2021 Feb 16;e13584. doi: 10.1111/tid.13584. Online ahead of print.

Authors

[Viral Dineshchandra Vyas](#)¹, [Sarojini Ashok Parameswaran](#)¹, [Piramanayagam Paramasivan](#)¹, [Krishnan Sankaranarayanan](#)¹, [Kallipatti Ramasamy Palaniswamy](#)¹, [Arumugam T Mohan](#)¹, [Usha Srinivas](#)¹, [Ubal Dhus](#)¹, [Hariharan Muthuswamy](#)¹, [Marimuthu S Revathy](#)¹, [Murugan Natarajan](#)¹, [Premkumar Karunakaran](#)¹, [Seshadri Venkatesh](#)¹, [Preethi Mahalingam](#)¹, [Ankit Patel](#)¹

Affiliation

- ¹ Department of Medical Gastroenterology, Apollo Hospitals, Greams lane (Off: Greams road), Chennai, 600006, India.
- PMID: [33594745](#)
- DOI: [10.1111/tid.13584](#)

Abstract

Background: Diarrhea is one of the common gastrointestinal (GI) adverse events after solid organ transplantation. Diarrhea may be due to infectious or non-infectious etiology. The infectious etiology of diarrhea varies according to the location and duration of diarrhea. Non-infectious etiologies include drugs, inflammatory bowel disease, neoplasia. The objective of this study was to evaluate the etiological profile of diarrhea in solid organ transplant recipients presenting to a tertiary care center in Southern India.

Methods: This was a retrospective analysis of prospectively collected data of all solid organ transplantation recipients referred to the Department of Medical Gastroenterology for evaluation of diarrhea from April 2012 till May 2014. All patients had stool evaluated by wet mount examination, modified acid fast (AFB) stain, trichrome stain, culture and Clostridium difficile toxin assay. EDTA plasma was collected for quantitative Cytomegalovirus (CMV) detection by real time PCR. If the diarrhea was acute (<2 weeks), and no etiological agent was identified, empirical antibiotic therapy was instituted and followed up. If persistent or chronic diarrhea (>2-4 weeks), endoscopic evaluation (upper GI endoscopy and/or colonoscopy with biopsies), depending on the clinical type of diarrhea was done. If no specific etiological diagnosis was established after endoscopic evaluation, breath test for SIBO, celiac serology were done. If no specific etiology was identified after the above

investigations, dose of immunosuppressive drugs was reduced. If diarrhea responded to dose reduction, it was considered to be drug related.

Results: Fifty-eight episodes of diarrhea occurred in 55 solid organ transplant recipients during the study period. Renal transplant recipients constituted the majority (70%). Most (79%) of patients included in the study had their transplant > 6 months ago. Infective diarrhea was the etiology in 46%, drug related diarrhea in 29.3%. No specific etiology was identified in 22.4% of patients. Parasites accounted for 69% of all infective diarrhea. Stool evaluation was the main investigation in establishing diagnosis in acute diarrhea. Endoscopic evaluation was required in two thirds of patients to establish diagnosis in chronic diarrhea.

Conclusion: GI infections and drug related diarrhea were the common causes of diarrhea in solid organ transplant recipients. Parasites were the most common infectious etiology of diarrhea. Step wise evaluation was able to identify the etiology in ~77% of patients. Overall, 98% of diarrheal episodes resolved.

Keywords: Diarrhea; Drug related; Immunosuppression; India; Post transplant; opportunistic pathogens.

This article is protected by copyright. All rights reserved.

Full text links



112. [Assessment of Tumor Response in Mice with Ovarian Peritoneal Carcinomatosis using Doppler Ultrasound of the Superior Mesenteric Artery and Celiac Trunk](#)

Ultrasound Med Biol. 2021 Mar;47(3):759-768. doi: 10.1016/j.ultrasmedbio.2020.11.030. Epub 2021 Jan 6.

Authors

[Matthias Barral](#)¹, [Cynthia Pimpie](#)¹, [Rachid Kaci](#)², [Iman Al-Dybiat](#)¹, [Massoud Mirshahi](#)¹,
[Marc Pocard](#)³, [Philippe Bonnin](#)⁴

Affiliations

- ¹ INSERM Unité 1275 CAP Paris-Tech, Université de Paris, Paris, France.
- ² INSERM Unité 1275 CAP Paris-Tech, Université de Paris, Paris, France; Anatomopathologie, hôpital Lariboisière, Université de Paris, Paris, France.
- ³ INSERM Unité 1275 CAP Paris-Tech, Université de Paris, Paris, France; Chirurgie Digestive et cancérologique, hôpital Lariboisière, Université de Paris, Paris, France.
- ⁴ Physiologie Clinique-Explorations-Fonctionnelles, hôpital Lariboisière, Université de Paris, Paris, France; INSERM U1148, LVTS, hôpital Bichat, Université de Paris, Paris, France. Electronic address: philippe.bonnin@aphp.fr.
- PMID: [33358050](#)
- DOI: [10.1016/j.ultrasmedbio.2020.11.030](https://doi.org/10.1016/j.ultrasmedbio.2020.11.030)

Abstract

The goal of the work described here was to assess the performance of Doppler ultrasound (US) of the superior mesenteric artery (SMA) and celiac trunk (CT) in the evaluation of tumor response in female mice with ovarian peritoneal carcinomatosis treated either with bevacizumab or with carboplatin.

Compared with untreated mice, carboplatin-treated mice had a lower weight (23.3 ± 2.0 vs. 27.9 ± 2.9 g, $p < 0.001$), peritoneal carcinomatosis index (PCI, 11 ± 3 vs. 28 ± 6 , $p < 0.001$), Ki67-positive staining surfaces ($p < 0.001$), vascular density ($p < 0.001$), mean blood flow velocity (mBFVel) in the SMA (7.0 ± 1.4 vs. 10.9 ± 1.8 cm/s, $p < 0.001$) and CT (8.0 ± 1.8 vs. 14.3 ± 4.6 cm/s, $p < 0.001$) and no ascites. Weight and mBFVel were similar in bevacizumab-treated and untreated mice. The mBFVels in the SMA and CT correlated with the PCI used as an estimation of the tumor burden, $R = 0.70$ ($p < 0.0001$) and $R = 0.65$ ($p < 0.0001$), respectively. Doppler US allows non-invasive assessment of the effects of anticancer therapy in ovarian peritoneal carcinomatosis-induced mice.

Keywords: Celiac trunk; Doppler ultrasound; Ovarian peritoneal carcinomatosis; Peritoneal carcinomatosis; Superior mesenteric artery; Tumor response.

Copyright © 2020 World Federation for Ultrasound in Medicine & Biology.
Published by Elsevier Inc. All rights reserved.

Full text links



113. [Increased incidence of coeliac disease autoimmunity rate in Israel: a 9-year analysis of population-based data](#)

Aliment Pharmacol Ther. 2021 Mar;53(6):696-703. doi: 10.1111/apt.16282.
Epub 2021 Feb 5.

Authors

[Niva Lechtman](#)^{1 2}, [Raanan Shamir](#)^{2 3}, [Shlomi Cohen](#)^{2 4}, [Gabriel Chodick](#)^{1 2}, [Revital Kariv](#)^{1 2 5}, [Lia Supino-Rosin](#)⁶, [Yael Weintraub](#)^{2 4}, [Anat Yerushalmy-Feler](#)^{2 4}, [Amir Ben Tov](#)^{1 2 4}

Affiliations

- ¹ Maccabi Institute for Research & Innovation, Maccabi Healthcare Services, Tel Aviv, Israel.
- ² Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.
- ³ Institute of Pediatric Gastroenterology, Nutrition, and Liver Diseases, Schneider Children's Medical Center, Petach Tikva, Israel.
- ⁴ Pediatric Gastroenterology Unit, Dana-Dwek Children's Hospital, Tel-Aviv Sourasky Medical Center, Tel Aviv, Israel.
- ⁵ Department of Gastroenterology, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel.
- ⁶ Immunology Unit, National Laboratory, Maccabi Healthcare Services, Rehovot, Israel.

- PMID: [33547687](#)
- DOI: [10.1111/apt.16282](#)

Abstract

Background: Incidence rate and temporal trends in coeliac disease and coeliac disease autoimmunity incidence vary worldwide with most data available from North American and European countries.

Aims: To explore temporal trends in incidence of coeliac disease autoimmunity and their relation to increase in screening tests in Israel.

Methods: A large retrospective population-based study was conducted in Maccabi Healthcare Services, a 2.3-million-member health maintenance organisation operating in Israel. The cohort included all patients with newly diagnosed coeliac disease autoimmunity based on first positive anti-tissue transglutaminase type 2 IgA antibodies. Data were analysed for the years 2007-2015.

Results: During the study period (17.3 million person-years), a total of 403 283 patients were tested for coeliac disease autoimmunity, of whom 6444 were positive, representing an average incidence rate of 36.64 per 100 000 person-years (95% CI: 35.74-37.55). Incidence of coeliac disease autoimmunity increased from 25.4 per 100 000 in 2007 to 52.3 per 100 000 person-years in 2015 (Incidence rate ratio of 2.06, 95% CI 1.81-2.26). Coeliac disease autoimmunity incidence was highest in the paediatric age groups, especially in children aged 0-5, and was 4 times higher than the incidence in adults aged 26-55 (Incidence rate ratio of 0.24, 95% CI (0.22-0.26)). The increase in incidence surpassed the increase in testing for new patients. Positive trends in incidence were highest in small children, whereas the incidence in adults was stable over the years.

Conclusions: There was a steady increase in coeliac disease autoimmunity incidence in our cohort between the years 2007-2015. The paediatric population was the only contributor to this trend.

© 2021 John Wiley & Sons Ltd.

- [31 references](#)

114. [**Histopathologic Manifestations of Crohn Disease in Duodenal Endoscopy Biopsy: The Value of Different Patterns of Involvement of Brunner Glands**](#)

Int J Surg Pathol. 2021 Feb 26;1066896921998438. doi: 10.1177/1066896921998438. Online ahead of print.

Authors

[Badr AbdullGaffar](#)¹, [Hoda Quraishi](#)¹

Affiliation

- ¹ 62743Rashid Hospital, Dubai, United Arab Emirates.
- PMID: [33635117](#)
- DOI: [10.1177/1066896921998438](#)

Abstract

Crohn disease (CD) not uncommonly involves the upper gastrointestinal tract, usually gastric antrum and proximal duodenum. The most consistent histopathologic manifestations of CD in duodenal biopsies are mucosal erosion, focal active inflammation, and granulomas. Since CD is a transmural inflammation and since duodenal biopsy may include submucosal Brunner glands, we aimed to find if CD has any specific histopathologic manifestations in Brunner gland lobules and their ducts compared to other duodenal inflammatory lesions. We carried out a retrospective review study over 6 years retrieving duodenal biopsy specimens in CD patients. We compared duodenal specimens involved by CD with other inflammatory lesions, for example, ulcerative colitis (UC), *Helicobacter pylori*-associated gastritis, non-*Helicobacter* gastritis, Celiac sprue, infections, and drugs. We found focal active duodenitis and erosion in CD cases and non-CD cases. Granulomas were found in CD cases. Five cases of CD showed inflammatory and degenerative changes of Brunner glands. Focal patchy active inflammation of only portion of submucosal Brunner gland lobule, mucosal Brunner glands, and their ducts

was solely found in CD cases. This focally enhanced inflammation of Brunner glands was not found in other lesions. Whether this phenomenon of focal active "lobulitis" and "ductitis" is a specific sign of duodenal CD compared to UC and other inflammatory lesions warrants verification. We encourage endoscopists to include submucosal Brunner lobules in their duodenal biopsy samples and pathologists to look for these patterns of involvement particularly in patients suspected of CD.

Keywords: Brunner glands; Crohn disease; active duodenitis; duodenum; erosion; focal activity; granuloma.

Full text links



115. [Correction to: Distance measurements and origin levels of the coeliac trunk, superior mesenteric artery, and inferior mesenteric artery by multiple-detector computed tomography angiography](#)

Anat Sci Int. 2021 Mar;96(2):332. doi: 10.1007/s12565-020-00591-7.

Authors

[Arzu Ekingen](#)¹, [Eyüp Savaş Hatipoğlu](#)², [Cihad Hamidi](#)³

Affiliations

- ¹ Vocational High School of Health Services, Batman University, Batman, Turkey. arzumumcu55@gmail.com.
- ² Department of Anatomy, Faculty of Medicine, University of Dicle, Diyarbakır, Turkey.
- ³ Department of Radiology, Private Bağlar Hospital, Diyarbakır, Turkey.
- PMID: [33373030](#)

- DOI: [10.1007/s12565-020-00591-7](https://doi.org/10.1007/s12565-020-00591-7)

No abstract available

Erratum for

- [Distance measurements and origin levels of the coeliac trunk, superior mesenteric artery, and inferior mesenteric artery by multiple-detector computed tomography angiography.](#)

Ekingen A, Hatipoğlu ES, Hamidi C.

Anat Sci Int. 2021 Jan;96(1):132-141. doi: 10.1007/s12565-020-00571-x.
Epub 2020 Sep 11.

PMID: 32915395

Full text links



116. [Non-invasive assessment of mesenteric hemodynamics in patients with suspected chronic mesenteric ischemia using 4D flow MRI](#)

Abdom Radiol (NY). 2021 Feb 6. doi: 10.1007/s00261-020-02900-0. Online ahead of print.

Authors

[Grant S Roberts](#)¹, [Christopher J François](#)², [Jitka Starekova](#)², [Alejandro Roldán-Alzate](#)^{2 3},
[Oliver Wieben](#)^{4 5}

Affiliations

- ¹ Department of Medical Physics, University of Wisconsin - Madison, Madison, WI, USA.

- ² Department of Radiology, University of Wisconsin - Madison, Madison, WI, USA.
- ³ Department of Mechanical Engineering, University of Wisconsin - Madison, Madison, WI, USA.
- ⁴ Department of Medical Physics, University of Wisconsin - Madison, Madison, WI, USA. owieben@wisc.edu.
- ⁵ Department of Radiology, University of Wisconsin - Madison, Madison, WI, USA. owieben@wisc.edu.
- PMID: [33547918](https://pubmed.ncbi.nlm.nih.gov/33547918/)
- DOI: [10.1007/s00261-020-02900-0](https://doi.org/10.1007/s00261-020-02900-0)

Abstract

Purpose: Chronic mesenteric ischemia (CMI) is a rare disease with a particularly difficult diagnosis. In this study, 4D flow MRI is used to quantitatively evaluate mesenteric hemodynamics before and after a meal in patients suspected of having CMI and healthy individuals.

Methods: Nineteen patients suspected of CMI and twenty control subjects were analyzed. Subjects were scanned using a radially undersampled 4D flow MR sequence (PC-VIPR). Flow rates were assessed in the supraceliac (SCAo) and infrarenal aorta, celiac artery, superior mesenteric artery (SMA), left and right renal arteries, superior mesenteric vein (SMV), splenic vein, and portal vein (PV) in a fasting state (preprandial) and 20 min after a 700-kcal meal (postprandial). Patients were subcategorized into positive diagnosis (CMI+, N = 6) and negative diagnosis (CMI-, N = 13) groups based on imaging and clinical findings. Preprandial, postprandial, and percent change in flow rates were compared between subgroups using a Welch t test.

Results: In controls and CMI- patients, SCAo, SMA, SMV, and PV flow increased significantly after meal ingestion. No significant flow increases were observed in CMI+ patients. Percent changes in SMA, SMV, and PV flow were significantly greater in controls compared to CMI+ patients. Additionally, percent changes in flow in the SMV and PV were significantly greater in CMI- patients compared to CMI+ patients.

Conclusions: 4D flow MRI with large volumetric coverage demonstrated significant differences in the redistribution of blood flow in SMA, SMV, and PV

in CMI+ patients after a meal challenge. This approach may assist in the challenging diagnosis of CMI.

Keywords: 4D flow MRI; Atherosclerosis; Chronic mesenteric ischemia; Hemodynamics; Phase contrast; Radial undersampling.

- [43 references](#)

Full text links



117. [Immune Checkpoint Inhibitor-Induced Upper Gastrointestinal Tract Inflammation Shows Morphologic Similarities to, but Is Immunologically Distinct From, Helicobacter pylori Gastritis and Celiac Disease](#)

Arch Pathol Lab Med. 2021 Feb 1;145(2):191-200. doi: 10.5858/arpa.2019-0700-OA.

Authors

[Lina Irshaid](#)¹, [Marie E Robert](#)¹, [Xuchen Zhang](#)¹

Affiliation

- ¹ From the Department of Pathology, Yale University School of Medicine, New Haven, Connecticut.
- PMID: [33501492](#)
- DOI: [10.5858/arpa.2019-0700-OA](#)

Free article

Abstract

Context.— Immune checkpoint inhibitor (CPI) therapies are associated with multi-organ immune-related adverse events. Although colonic mucosal changes have been described, inflammatory changes incited by CPIs in the upper gastrointestinal tract have not been well characterized.

Objective.— To investigate morphologic and immunologic changes incited by CPI therapy in the upper gastrointestinal tract.

Design.— We compared the morphology and immune cell phenotype of gastric and duodenal biopsies from patients treated with anti-cytotoxic T-lymphocyte associated protein 4 (CTLA-4) or anti-programmed death receptor-1/programmed death ligand-1 (PD-1/PD-L1) antibodies with biopsies from patients with *Helicobacter pylori* gastritis, patients with celiac disease, and normal controls.

Results.— Gastric biopsies from patients on CPIs showed chronic gastritis mimicking *H pylori* gastritis. However, CPI gastritis demonstrated greater numbers of CD8+ intraepithelial lymphocytes, less lamina propria inflammation, fewer plasma cells and CD20+ B cells, fewer lymphoid aggregates, and reduced CD4:CD8 ratio in both the lamina propria and the epithelial layer. There were no differences between anti-CTLA-4 and anti-PD-1/PD-L1 gastritis, except for more lymphoid aggregates in anti-PD-1/PD-L1 gastritis. Duodenal biopsies from patients on CPIs revealed chronic duodenitis with villous blunting, mimicking celiac disease. Compared with celiac disease, CPI duodenitis demonstrated higher prevalence of neutrophilic infiltrates and erosions, increased lamina propria CD3 and CD8 T cells, and reduced CD4:CD8 ratio. Upper gastrointestinal biopsies were more inflamed than concomitant colonic biopsies in the majority of patients.

Conclusions.— The morphologic and immunophenotypic distinctions between CPI-associated upper gastrointestinal injuries and common infectious and autoimmune diseases may provide useful discriminators when clinicians are confronted with gastric and duodenal inflammatory changes in patients receiving CPI therapy.

Conflict of interest statement

The authors have no relevant financial interest in the products or companies described in this article.

Full text links



118. [Is Endoscopic Assessment of the Esophagus and Stomach Enough to Determine the Need for Biopsy at These Sites in Pediatric Patients Undergoing Endoscopy for Elevated TTG?](#)

Pediatr Dev Pathol. 2021 Feb 4;1093526621991486. doi: 10.1177/1093526621991486. Online ahead of print.

Authors

[M Cristina Pacheco](#)^{1 2}, [Nicole Green](#)^{3 4}, [Jane Dickerson](#)^{1 2}, [Dale Lee](#)^{3 4}

Affiliations

- ¹ Department of Laboratories, Seattle Children's Hospital, Seattle, Washington.
- ² Department of Laboratory Medicine & Pathology, University of Washington, Seattle, Washington.
- ³ Division of Gastroenterology & Hepatology, Seattle Children's Hospital, Seattle, Washington.
- ⁴ Department of Pediatrics, University of Washington, Seattle, Washington.
- PMID: [33538229](#)
- DOI: [10.1177/1093526621991486](#)

Abstract

Objectives: The goal of our study was to determine whether visual assessment of the esophagus and stomach could predict abnormal histology and determine the frequency of interventions based on biopsies in patients undergoing endoscopy for elevated tissue transglutaminase immunoglobulin A antibody (TTG).

Methods: Pathology records were searched for patients with biopsy performed for elevated TTG. Pathology report, endoscopy report, and follow-up were obtained and slides from the duodenum reviewed. Pathology was considered gold standard for sensitivity and specificity calculations.

Results: 240 patients were included. 215 patients had esophageal biopsies performed. Esophageal endoscopic visual assessment had sensitivity of 47% and specificity of 93% for abnormal histology. 16(7%) patients had therapy or referral related to results and, of these, 6(38%) had visually normal endoscopy. 237 biopsies were performed of stomach. Gastric endoscopic visual assessment had a sensitivity and specificity of 20% and 87%. 24(10%) patients had therapy based on findings and, of these, 12 (50%) had visually normal endoscopy.

Conclusions: Endoscopic assessment of esophagus and stomach has low sensitivity and high specificity for pathologic abnormalities when indication for endoscopy is elevated TTG. When endoscopy is visually normal clinical interventions based on biopsy are rare, and foregoing biopsy may be considered.

Keywords: GI; Pediatric; celiac disease; esophagus; mucosal biopsies; stomach.

Full text links



119. **Correction to: Hispanic Spinocerebellar Ataxia Type 35 (SCA35) with a Novel Frameshift Mutation**

Cerebellum. 2021 Feb;20(1):140. doi: 10.1007/s12311-020-01169-9.

Authors

[Chih-Chun Lin](#)¹, [Shi-Rui Gan](#)², [Deepak Gupta](#)³, [Armin Alaedini](#)^{4 5}, [Peter H Green](#)^{4 5}, [Sheng-Han Kuo](#)⁶

Affiliations

- ¹ Methodist Neurological Institute, Houston, TX, USA.
- ² Department of Neurology and Institute of Neurology, The First Affiliated Hospital of Fujian Medical University, Fujian, China.
- ³ Department of Neurology, Columbia University Medical Center, 650 West 168th Street, Room 305, New York, NY, 10032, USA.
- ⁴ Department of Medicine, Columbia University Medical Center, New York, NY, USA.
- ⁵ Celiac Disease Center, College of Physicians and Surgeons, Columbia University, New York, NY, USA.
- ⁶ Department of Neurology, Columbia University Medical Center, 650 West 168th Street, Room 305, New York, NY, 10032, USA.
sk3295@columbia.edu.
- PMID: [32767197](#)
- DOI: [10.1007/s12311-020-01169-9](https://doi.org/10.1007/s12311-020-01169-9)

No abstract available

Erratum for

- [Hispanic Spinocerebellar Ataxia Type 35 \(SCA35\) with a Novel Frameshift Mutation.](#)

Lin CC, Gan SR, Gupta D, Alaedini A, Green PH, Kuo SH.

Cerebellum. 2019 Apr;18(2):291-294. doi: 10.1007/s12311-018-0978-6.

PMID: 30229425Free PMC article.

Full text links



120. [**Editorial: towards an understanding of increased mortality in coeliac disease**](#)

Aliment Pharmacol Ther. 2021 Mar;53(5):654-655. doi: 10.1111/apt.16237.

Author

[Robert P Anderson](#) ¹

Affiliation

- ¹ Wesley Medical Research - The Wesley Hospital, Auchenflower, QLD, Australia.
- PMID: [33566401](#)
- DOI: [10.1111/apt.16237](#)

No abstract available

- [11 references](#)

121. [**Bacterial dysbiosis predicts the diagnosis of Crohn's disease in Saudi children**](#)

Saudi J Gastroenterol. 2021 Feb 9. doi: 10.4103/sjg.SJG_409_20. Online ahead of print.

Authors

[Mohammad I El Mouzan](#) ¹, [Harland S Winter](#) ², [Ahmed A Al Sarkhy](#) ¹, [Kirill Korolev](#) ³, [Rajita Menon](#) ⁴, [Asaad A Assiri](#) ⁵

Affiliations

- ¹ Department of Pediatrics, Gastroenterology Division, King Saud University, Riyadh, Kingdom of Saudi Arabia.
- ² Mass General Hospital for Children, Gastroenterology, MA, USA.
- ³ Department of Physics, Bioinformatics Program, Boston University, MA, USA.
- ⁴ Department of Physics, Boston University, Boston, MA, Boston, USA.
- ⁵ Department of Pediatrics, Gastroenterology Division, Supervisor, Prince Abdullah Bin Khalid Celiac Disease Research Chair, King Saud University, Riyadh, Kingdom of Saudi Arabia.
- PMID: [33642351](#)
- DOI: [10.4103/sjg.SJG_409_20](#)

Abstract

Background: Studies have reached different conclusions regarding the accuracy of dysbiosis in predicting the diagnosis of Crohn's disease (CD). The aim of this report is to assess the utility of mucosal and fecal microbial dysbiosis as predictors in the diagnosis of this condition in Saudi children.

Methods: Tissue and fecal samples were collected prospectively from children with final diagnosis of CD and from controls. Bacterial DNA was extracted and sequenced using Illumina MiSeq chemistry. The abundance and diversity of bacteria in tissue and fecal samples were determined in relation to controls. Sparse logistic regression was calculated to predict the diagnosis of CD based on subject's microbiota profile.

Results: There were 17 children with CD and 18 controls. All children were Saudis. The median age was 13.9 and 16.3 years for children with CD and controls respectively. Sex distribution showed that 11/17 (65%) of the CD and 12/18 (67%) of the control subjects were boys. The mean area under the curve (AUC) was significantly higher in stool ($AUC = 0.97 \pm 0.029$) than in tissue samples ($AUC = 0.83 \pm 0.055$) ($P < 0.001$).

Conclusions: We found high AUC in mucosal and fecal samples. The higher AUC for fecal samples suggests higher accuracy in predicting the diagnosis of CD.

Keywords: Crohn's disease; Saudi children; microbiota.

Conflict of interest statement

None

122. [Oncogenetic landscape of lymphomagenesis in coeliac disease](#)

Gut. 2021 Feb 12;gutjnl-2020-322935. doi: 10.1136/gutjnl-2020-322935.
Online ahead of print.

Authors

[Sascha Cording](#)¹, [Ludovic Lhermitte](#)^{# 2 3}, [Georgia Malamut](#)^{# 1 4}, [Sofia Berrabah](#)^{# 1},
[Amélie Trinquand](#)^{1 5}, [Nicolas Guegan](#)¹, [Patrick Villarese](#)^{2 3}, [Sophie Kaltenbach](#)⁶,
[Bertrand Meresse](#)⁷, [Sherine Khater](#)⁸, [Michael Dussiot](#)⁹, [Marc Bras](#)¹⁰, [Morgane Cheminant](#)^{9 11},
[Bruno Tesson](#)¹², [Christine Bole-Feysot](#)¹³, [Julie Bruneau](#)¹⁴, [Thierry Jo Molina](#)^{9 14},
[David Sibon](#)¹¹, [Elizabeth Macintyre](#)^{2 3}, [Olivier Hermine](#)^{9 11}, [Christophe Cellier](#)⁸,
[Vahid Asnafi](#)^{2 3}, [Nadine Cerf-Bensussan](#)¹⁵, [CELAC network](#)

Collaborators

- **CELAC network:**

[Yoram Bouhnik](#), [Charles-André Cuenod](#), [Sabine Brechignac](#), [Matthieu Allez](#), [Jacques Cosnes](#),
[Agnès Fourmesttraux](#), [Jean-Charles Delchier](#), [Jehan Dupuis](#), [Corinne Haïoun](#),
[Taoufik El Gnaoui](#), [Eric Lerebours](#), [Guillaume Savoye](#), [Herve Tilly](#), [Bernard Flourie](#),
[Bertrand Coiffier](#), [Xavier Hebuterne](#), [Nadia Arab](#), [Jérôme Filippi](#), [Stéphane Schneider](#),
[Frank Zerbib](#), [Noel Milpied](#), [Krimo Bouabdallah](#), [Reza Tabrizi](#), [Stéphane Vigouroux](#),
[Arnaud Pigneux](#), [Thibaut Leguay](#), [Marie-Sarah Dilhuydy](#), [Charles Dauriac](#),
[Serge Bologna](#), [Cyrille Hulin](#), [Caroline Bonmati](#), [Frédéric Magnin](#), [Dana Ranta](#),
[Tamara Matysiakbudnik](#), [Eric Deconinck](#), [Philippe Poudoux](#), [Bruno Bonaz](#),
[Remy Gressin](#), [Franck Carbonnel](#), [Jean-Marc Gornet](#), [Julien Branche](#), [Georgette Saint-Georges](#),
[Jean-Marie Reimund](#), [Stéphane Nancey](#), [Maria Nachury](#), [Stéphanie](#)

[Viennot](#), [Camille Zallot](#), [Bettina Fabiani](#), [Lysiane Marthey](#), [Karine Juvin](#), [Yann Le Baieur](#), [Sandy Kwiitek](#), [Eric Saillard](#), [Dominique Louvel](#), [Xavier Roblin](#), [Philippe Beau](#), [Pierre Feugier](#), [Laurent Peyrin-Biroulet](#), [Hélène Zanicali](#), [Hedia Bixi-Benmansour](#), [Guillaume Cadiot](#), [Thierry Lecomte](#), [Jean-Francois Bretagne](#), [Olivier Casasnovas](#), [Denis Caillot](#), [Laurent Bedenne](#), [Jacques-Olivier Bay](#), [Corinne Bouteloup](#), [Bernard Duclos](#), [Carine Foucaud](#)

Affiliations

- ¹ Université de Paris, Imagine Institute, Laboratory of Intestinal Immunity, INSERM UMR 1163, Paris, France.
- ² Université de Paris, Institut Necker-Enfants Malades, INSERM UMR 1151, Paris, France.
- ³ Laboratory of Onco-Haematology, AP-HP, Hôpital Necker Enfants-Malades, Paris, France.
- ⁴ Department of Gastroenterology, AP-HP, Hôpital Cochin, Paris, France.
- ⁵ Haematology Department, National Children's Research Centre, Children's Health Ireland at Crumlin, Dublin, Ireland.
- ⁶ Department of Cytogenetics, AP-HP, Hôpital Necker Enfants-Malades, Paris, France.
- ⁷ Université de Lille, CHU Lille, INSERM UMR 1286 - INFINITE - Institute for Translational Research in Inflammation, Lille, France.
- ⁸ Department of Gastroenterology, AP-HP, Hôpital Européen Georges Pompidou, Paris, France.
- ⁹ Université de Paris, Imagine Institute, Laboratory of Molecular Mechanisms of Hematological Disorders and Therapeutic Implications, INSERM UMR 1163, Paris, France.
- ¹⁰ Université de Paris, Imagine Institute, Bioinformatics Platform, Paris, France.
- ¹¹ Clinical Haematology, AP-HP, Hôpital Necker Enfants-Malades, Paris, France.
- ¹² Institut Carnot CALYM, Paris, France.
- ¹³ Université de Paris, Imagine Institute, Genomics Platform, Paris, France.
- ¹⁴ Department of Pathology, AP-HP, Hôpital Necker Enfants-Malades, Paris, France.

- ¹⁵ Université de Paris, Imagine Institute, Laboratory of Intestinal Immunity, INSERM UMR 1163, Paris, France nadine.cerf-bensussan@inserm.fr.

Contributed equally.

- PMID: [33579790](https://pubmed.ncbi.nlm.nih.gov/33579790/)
- DOI: [10.1136/gutjnl-2020-322935](https://doi.org/10.1136/gutjnl-2020-322935)

Abstract

Objective: Enteropathy-associated T-cell lymphoma (EATL) is a rare but severe complication of coeliac disease (CeD), often preceded by low-grade clonal intraepithelial lymphoproliferation, referred to as type II refractory CeD (RCDII). Knowledge on underlying oncogenic mechanisms remains scarce. Here, we analysed and compared the mutational landscape of RCDII and EATL in order to identify genetic drivers of CeD-associated lymphomagenesis.

Design: Pure populations of RCDII-cells derived from intestinal biopsies (n=9) or sorted from blood (n=2) were analysed by whole exome sequencing, comparative genomic hybridisation and RNA sequencing. Biopsies from RCDII (n=50), EATL (n=19), type I refractory CeD (n=7) and uncomplicated CeD (n=18) were analysed by targeted next-generation sequencing. Moreover, functional in vitro studies and drug testing were performed in RCDII-derived cell lines.

Results: 80% of RCDII and 90% of EATL displayed somatic gain-of-functions mutations in the JAK1-STAT3 pathway, including a remarkable p.G1097 hotspot mutation in the JAK1 kinase domain in approximately 50% of cases. Other recurrent somatic events were deleterious mutations in nuclear factor kappa-light-chain-enhancer of activated B-cells (NF- κ B) regulators TNFAIP3 and TNIP3 and potentially oncogenic mutations in TET2, KMT2D and DDX3X. JAK1 inhibitors, and the proteasome inhibitor bortezomib could block survival and proliferation of malignant RCDII-cell lines.

Conclusion: Mutations activating the JAK1-STAT3 pathway appear to be the main drivers of CeD-associated lymphomagenesis. In concert with mutations in negative regulators of NF- κ B, they may favour the clonal emergence of malignant lymphocytes in the cytokine-rich coeliac intestine. The identified

mutations are attractive therapeutic targets to treat RCDII and block progression towards EATL.

Keywords: COELIAC DISEASE; GASTROINTESTINAL LYMPHOMA; GENE MUTATION.

© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: None declared.

Full text links



123. [Application of a personal Santini technique in the resolution of a complex celiac trunk aneurysm - endovascular treatment](#)

Med Glas (Zenica). 2021 Feb 1;18(1). doi: 10.17392/1302-21. Online ahead of print.

Authors

[Gianpaolo Santini](#)¹, [Pasquale Quassone](#)², [Luca Tarotto](#)¹, [Francesco Arienzo](#)¹, [Giuseppe Sarti](#)¹

Affiliations

- ¹ Vascular and Interventional Unit-P.O. Ospedale del Mare, ASL NA1 Centro, viale delle Metamorfosi, Naples, Italy.
- ² Department of Precision Medicine, University of Campania "L. Vanvitelli", Naples, Italy.
- PMID: [33269581](#)
- DOI: [10.17392/1302-21](#)

Free article

[Abstract](#)

Aim Vascular pathologies have been already explored for the most of their aspects. It is a group of pathologies with unclear ethology and with an evolution in time not easy to forecast. Treatment guidelines are conflicting. The aim of this study was to describe cases in their most practical and technical aspect, especially in complicated conditions. **Methods** This was a descriptive case report of a patient with a hepatic artery aneurysm complicated by a dissection leading up to the splenic artery, and how the team had invented a planned treatment for the patient using a minimally invasive approach. The experience was born with the intention of showing how the endovascular approach is at least as safe as the traditional one despite the complexity of our case. **Results** The procedure was completed without any complications. After a stay in long day surgery, the patient returned home. **Conclusion** Using a minimally invasive technique allows to reduce the patient's post-operative suffering and the economic burden on the health system.

Keywords: aneurism; dissection; hepatic artery; splenic artery.

Copyright© by the Medical Assotiation of Zenica-Doboj Canton.

Full text links

FREE FULL TEXT
MEDICINSKI GLASNIK

124. [**Early High-Dose Gluten Intake to Prevent Celiac Disease: Data Do Not Allow Conclusions-Reply**](#)

JAMA Pediatr. 2021 Feb 8. doi: 10.1001/jamapediatrics.2020.6519. Online ahead of print.

Authors

[Gideon Lack](#)¹, [Kirsty Logan](#)¹

Affiliation

- ¹ Paediatric Allergy Research Group, Department of Women and Children's Health, School of Life Course Sciences, King's College London, London, United Kingdom.
- PMID: [33555289](#)
- DOI: [10.1001/jamapediatrics.2020.6519](#)

No abstract available

Full text links



125. [Early High-Dose Gluten Intake to Prevent Celiac Disease: Data Do Not Allow Conclusions](#)

JAMA Pediatr. 2021 Feb 8. doi: [10.1001/jamapediatrics.2020.6516](#). Online ahead of print.

Authors

[Sibylle Koletzko](#) ¹, [M Luisa Mearin](#) ²

Affiliations

- ¹ Dr. von Hauner Children's Hospital, LMU Klinikum, University of Munich, München, Germany.
- ² Department of Paediatrics, Leiden University Medical Center, Leiden, the Netherlands.
- PMID: [33555310](#)
- DOI: [10.1001/jamapediatrics.2020.6516](#)

No abstract available

Full text links



126. [Editorial: the rising tide of coeliac disease autoimmunity](#)

Aliment Pharmacol Ther. 2021 Mar;53(6):757-758. doi: 10.1111/apt.16291.

Authors

[Jacqueline Jossen](#)¹, [Benjamin Lebwohl](#)¹

Affiliation

- ¹ The Celiac Disease Center, Columbia University Irving Medical Center, New York City, NY, USA.
- PMID: [33599322](#)
- DOI: [10.1111/apt.16291](#)

No abstract available

- [6 references](#)

127. [Enterovirus Infections Are Associated With the Development of Celiac Disease in a Birth Cohort Study](#)

Front Immunol. 2021 Feb 2;11:604529. doi: 10.3389/fimmu.2020.604529. eCollection 2020.

Authors

[Maarit Oikarinen](#)¹, [Leena Puustinen](#)¹, [Jussi Lehtonen](#)¹, [Leena Hakola](#)^{2 3}, [Satu Simell](#)⁴, [Jorma Toppari](#)^{4 5}, [Jorma Ilonen](#)⁶, [Riitta Veijola](#)^{7 8}, [Suvi M Virtanen](#)^{2 3 9 10}, [Mikael Knip](#)^{10 11 12}, [Heikki Hyöty](#)^{1 13}

Affiliations

- ¹ Faculty of Medicine and Health Technology, Tampere University, Tampere, Finland.
- ² Unit of Health Sciences, Faculty of Social Sciences, Tampere University, Tampere, Finland.
- ³ Research, Development and Innovation Center, Tampere University Hospital, Tampere, Finland.
- ⁴ Department of Paediatrics and Adolescent Medicine, Turku University Hospital, Turku, Finland.
- ⁵ Institute of Biomedicine, Centre for Integrative Physiology and Pharmacology, University of Turku, Turku, Finland.
- ⁶ Immunogenetics Laboratory, Institute of Biomedicine, University of Turku, Turku, Finland.
- ⁷ PEDEGO Research Unit, Medical Research Centre, Department of Paediatrics, University of Oulu, Oulu, Finland.
- ⁸ Department of Children and Adolescents, Oulu University Hospital, Oulu, Finland.
- ⁹ Department of Public Health Solutions, Finnish Institute for Health and Welfare, Helsinki, Finland.
- ¹⁰ Center for Child Health Research, Tampere University and Tampere University Hospital, Tampere, Finland.
- ¹¹ Pediatric Research Center, Children's Hospital, University of Helsinki and Helsinki University Hospital, Helsinki, Finland.
- ¹² Research Program for Clinical and Molecular Metabolism, Faculty of Medicine, University of Helsinki, Helsinki, Finland.
- ¹³ Fimlab Laboratories, Pirkanmaa Hospital District, Tampere, Finland.
- PMID: [33603739](#)
- PMCID: [PMC7884453](#)
- DOI: [10.3389/fimmu.2020.604529](#)

Free PMC article

[Abstract](#)

Enterovirus and adenovirus infections have been linked to the development of celiac disease. We evaluated this association in children who developed biopsy-proven celiac disease (N = 41) during prospective observation starting

from birth, and in control children (N = 53) matched for the calendar time of birth, sex, and HLA-DQ genotype. Enterovirus and adenovirus infections were diagnosed by seroconversions in virus antibodies in longitudinally collected sera using EIA. Enterovirus infections were more frequent in case children before the appearance of celiac disease-associated tissue transglutaminase autoantibodies compared to the corresponding period in control children (OR 6.3, 95% CI 1.8-22.3; p = 0.005). No difference was observed in the frequency of adenovirus infections. The findings suggest that enterovirus infections may contribute to the process leading to celiac disease.

Keywords: Finnish Diabetes Prediction and Prevention study; celiac disease; conditional logistic regression; enterovirus; enzyme immunoassay (EIA); tissue transglutaminase autoantibodies.

Copyright © 2021 Oikarinen, Puustinen, Lehtonen, Hakola, Simell, Toppari, Ilonen, Veijola, Virtanen, Knip and Hyöty.

Conflict of interest statement

HH and MK are shareholders and members of the board of Vactech Ltd. which develops vaccines against picornaviruses. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

- [22 references](#)
- [2 figures](#)

Full text links



128. [\[Vitamin D Deficiency in Sports\]](#)

Praxis (Bern 1994). 2021 Feb;110(2):94-104. doi: 10.1024/1661-8157/a003550.
[Article in German]

Authors

[Beat Knechtle](#)^{1 2}, [Zbigniew Jastrzębski](#)³, [Pantelis T Nikolaidis](#)^{4 5}

Affiliations

- ¹ Medbase St. Gallen Am Vadianplatz, St. Gallen.
- ² Institut für Hausarztmedizin, Universität Zürich, Zürich.
- ³ Gdansk University of Physical Education and Sport, Danzig, Polen.
- ⁴ Exercise Physiology Laboratory, Nikaia, Griechenland.
- ⁵ School of Health and Caring Sciences, University of West Attica, Athen, Griechenland.
- PMID: [33530783](#)
- DOI: [10.1024/1661-8157/a003550](#)

Abstract

in [English](#), [German](#)

Vitamin D Deficiency in Sports **Abstract.** A deficiency in vitamin D is very common in the general population as well as in athletes. The aim of this overview is to assess the level of knowledge about the importance of vitamin D for athletes. A deficiency in vitamin D is present in up to 90 % of athletes. Risk groups are young athletes, female athletes, athletes with a limitation such as paraplegia, vegetarians, athletes with a resorption disorder such as celiac disease, athletes training and competing indoors (e.g. ice hockey, basketball, boxing, rhythmic gymnastics), and older athletes. Dark skin pigmentation, the use of sunscreen, the time of day of the training (early morning, late evening) and the geographical location influence the risk for a deficiency in vitamin D. Exposure to the sun and a balanced diet are often not enough to prevent a vitamin D deficiency.

Zusammenfassung. Ein Mangel an Vitamin D ist in der allgemeinen Bevölkerung wie auch bei Sportlerinnen und Sportlern sehr häufig. Ziel dieser Übersicht ist, den Stand des Wissens um die Bedeutung von Vitamin D für den sportlich aktiven Menschen zusammenzustellen. Ein Vitamin-D-Mangel liegt bei Sportlerinnen und Sportlern in bis zu 90 % vor. Risikogruppen bzw. -faktoren sind junge Sportler/innen, weibliches Geschlecht, Sportler/innen mit einer Einschränkung wie z.B. Querschnittgelähmte, Vegetarier/innen, Sportler/innen mit einer Resorptionsstörung wie Zöliakie, diejenigen, die in Hallen trainieren und dort auch Wettkämpfe durchführen (Eishockey, Basketball, Boxen, Rhythmische Sportgymnastik), ältere Sportler/innen, dunkle Hautpigmentation, der Gebrauch von Sonnenschutz, die Tageszeit des

Trainings (früher Morgen, später Abend) sowie die geografische Lage. Sonnenexposition sowie eine ausgewogene Ernährung reichen oft nicht aus, um einen Vitamin-D-Mangel zu verhindern.

Keywords: Ernährung; Leistungsfähigkeit; Performance; Sonnenexposition; Vitamin-D-Mangel; carence en vitamine D; exposition solaire; nutrition; sun exposure; vitamin D deficiency.

Full text links

Hogrefe

129. Where have all the other coeliacs gone in 2020? Road for a 2021 catch-up with missed diagnoses

Dig Liver Dis. 2021 Feb 1;S1590-8658(21)00014-1. doi: 10.1016/j.dld.2021.01.008. Online ahead of print.

Authors

[Francesco Valitutti](#)¹, [Riccardo Troncone](#)², [Pasquale Pisano](#)³, [Carolina Ciacci](#)⁴, [Campania Coeliac Disease Network](#)

Affiliations

- ¹ Pediatric Unit, Salerno University Hospital, Salerno, Italy; EBRIS (European Biomedical Research Institute of Salerno), Salerno, Italy. Electronic address: francesco.valitutti@gmail.com.
- ² Department of Medical Translational Sciences and European Laboratory for the Investigation of Food-Induced Diseases, University Federico II, Naples, Italy. Electronic address: troncone@unina.it.
- ³ Pediatric Unit, Salerno University Hospital, Salerno, Italy. Electronic address: pasquale.pisano@sangiovanieruggi.it.
- ⁴ Department of Medicine, Surgery and Dentistry "Scuola Medica Salernitana", University of Salerno, Largo Città d'Ippocrate, 84131 Salerno, Italy. Electronic address: cciacci@unisa.it.

- PMID: [33541798](#)
- DOI: [10.1016/j.dld.2021.01.008](#)

No abstract available

Keywords: Coeliac disease; Covid-19; Diagnosis.

Conflict of interest statement

Declaration of Competing Interest All the authors declare no conflicts of interest regarding this paper

Full text links



130. [**Risk of Severe Covid-19 in Patients with Celiac Disease: A Population-Based Cohort Study**](#)

Clin Epidemiol. 2021 Feb 18;13:121-130. doi: 10.2147/CLEP.S294391. eCollection 2021.

Authors

[Benjamin Lebwohl](#)^{1 2}, [Emma Larsson](#)³, [Jonas Söderling](#)⁴, [Bjorn Roelstraete](#)⁴, [Joseph A Murray](#)⁵, [Peter H R Green](#)¹, [Jonas F Ludvigsson](#)^{1 4 6}

Affiliations

- ¹ Celiac Disease Center, Department of Medicine, Columbia University Medical Center, New York, NY, USA.
- ² Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA.
- ³ Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden.
- ⁴ Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden.

- ⁵ Department of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA.
- ⁶ Department of Pediatrics, Örebro University Hospital, Örebro University, Örebro, Sweden.
- PMID: [33628059](#)
- PMCID: [PMC7899312](#)
- DOI: [10.2147/CLEP.S294391](#)

Free PMC article

Abstract

Background: Patients with celiac disease (CeD) are at increased risk of certain viral infections and of pneumococcal pneumonia, raising concerns that they may be susceptible to severe coronavirus disease 2019 (Covid-19). We aimed to quantify the association between CeD and severe outcomes related to Covid-19.

Methods: We performed a population-based cohort study, identifying individuals with CeD in Sweden, as defined by small intestinal villus atrophy diagnosed at all (n=28) Swedish pathology departments during the years spanning 1969-2017, and alive on February 1, 2020. We compared these patients to controls matched by sex, age, county, and calendar period. We performed Cox proportional hazards with follow-up through July 31, 2020, assessing risk of 1) hospital admission with a primary diagnosis of laboratory-confirmed Covid-19 (co-primary outcome); and 2) severe disease as defined by admission to intensive care unit and/or death attributed to Covid-19 (co-primary outcome).

Results: Among patients with CeD (n=40,963) and controls (n=183,892), the risk of hospital admission for Covid-19 was 2.9 and 2.2 per 1000 person-years respectively. After adjusting for comorbidities, the risk of hospitalization for Covid-19 was not significantly increased in patients with CeD (HR 1.10; 95% CI 0.80-1.50), nor was the risk of severe Covid-19 increased (HR 0.97; 95% CI 0.59-1.59). Results were similarly null when we compared CeD patients to their non-CeD siblings with regard to these outcomes. Among all patients with CeD and controls hospitalized with a diagnosis of Covid-19 (n=58 and n=202, respectively), there was no significant difference in mortality (HR for CeD compared to controls 0.96; 95% CI 0.46-2.02).

Conclusion: In this population-based study, CeD was not associated with an increased risk of hospitalization for Covid-19 or intensive care unit and/or death attributed to Covid-19.

Keywords: Covid-19; SARS-CoV-2; celiac disease; epidemiology; infection.

© 2021 Lebwohl et al.

Conflict of interest statement

Dr Benjamin Lebwohl reports grants from The Louis and Gloria Flanzer Philanthropic Trust, during the conduct of the study; grants from Celiac Disease Foundation, personal fees from Takeda, personal fees from Anokion, outside the submitted work. Dr. Joseph Murray has received study grants from Nexpep/ImmusanT, National Institutes of Health, Immunogenix, Takeda Pharmaceutical, Allakos, Oberkotter, and Cour; consultancy fees from Bionix, Lilly Research Laboratory, Johnson & Johnson, Dr. Schar USA, UCB Biopharma, Celimmune, Intrexon Corporation, Chugai Pharma, Kanyos, and Boehringer Ingelheim; holds patents licensed to Evelo Biosciences; and receives royalties from Torax Medical., during the conduct of the study. Professor Jonas F Ludvigsson reports research support from Janssen, outside the submitted work. The authors report no other conflicts of interest related to this work.

- [33 references](#)
- [2 figures](#)

Full text links



131. [Carboxymethylcellulose-induced changes in rheological properties and microstructure of wheat gluten proteins under different pH conditions](#)

J Food Sci. 2021 Feb 16. doi: 10.1111/1750-3841.15646. Online ahead of print.

Authors

[Yuanyuan Chen](#)¹, [Yu Tang](#)¹, [Qiming Wang](#)¹, [Lin Lei](#)¹, [Jichun Zhao](#)¹, [Yuhao Zhang](#)¹, [Lin Li](#)², [Qiang Wang](#)³, [Jian Ming](#)¹

Affiliations

- ¹ College of Food Science, Southwest University, Chongqing, 400715, People's Republic of China.
- ² Engineering Research Center of Health Food Design & Nutrition Regulation, School of Chemical Engineering and Energy Technology, Dongguan University of Technology, Dongguan, 523808, People's Republic of China.
- ³ Institute of Food Science and Technology, Chinese Academy of Agricultural Sciences, Beijing, 100193, People's Republic of China.
- PMID: [33590508](#)
- DOI: [10.1111/1750-3841.15646](#)

Abstract

Abstract: The interaction between gluten and hydrocolloid additive, as well as the pH condition during dough formation is very important in making flour products. In this study, the influence of different pH conditions on the interactions between gluten proteins (including glutenin and gliadin) and carboxymethylcellulose (CMC), and on the rheological and microstructure changes of gluten proteins was investigated. The dynamic frequency sweep indicated CMC-gluten displayed more solid-like behavior under alkaline conditions than that under acidic conditions. The creep-recovery experiment suggested acidic conditions were not conducive to maintain the elasticity of CMC-gluten. Microstructural changes of various glutes with CMC showed that a higher ratio of β -sheets was observed in the CMC-gluten and CMC-glutenin under alkaline conditions. Total free sulfhydryl contents and changes in tryptophan microenvironment showed glutenin played a key role in the G polymerization with the addition of CMC. Lower surface hydrophobicity of CMC-gluten was displayed under acidic conditions. Scanning electron microscopy images showed that neutral and alkaline conditions were

conductive to the network structure formation of CMC-gluten and CMC-glutenin.

Practical application: This study investigated the interaction of CMC with gluten, gluten, and gliadin under different pH conditions, providing a basis for expanding dough quality improvement, and extending the in-depth application of CMC in the food industry.

Keywords: carboxymethylcellulose; gluten proteins; microstructure; rheological properties.

© 2021 Institute of Food Technologists®.

- [41 references](#)

Full text links



132. [Extensive molecular reclassification: new perspectives in small bowel adenocarcinoma?](#)

Med Oncol. 2021 Feb 2;38(2):17. doi: 10.1007/s12032-021-01468-z.

Authors

[Andrea Casadei-Gardini](#)¹, [Sara Lonardi](#)^{2 3}, [Valeria Smioldo](#)⁴, [Matteo Canale](#)⁵, [Alessandro Passardi](#)⁶, [Nicola Silvestris](#)⁷, [Giulia Orsi](#)⁸, [Floriana Nappo](#)^{3 9}, [Lorenza Rimassa](#)^{4 10}, [Matteo Fassan](#)¹¹, [Paola Spaggiari](#)¹², [Oronzo Brunetti](#)⁷, [Kalliopi Andrikou](#)⁶, [Stefano Cascinu](#)⁸

Affiliations

- ¹ Department of Medical Oncology, Università Vita-Salute San Raffaele, IRCCS-Ospedale San Raffaele, Via Olgettina 70, 20132, Milan, Italy. casadeigardini@gmail.com.
- ² Early Phase Clinical Trial Unit, Department of Oncology, Veneto Institute of Oncology IOV-IRCCS, Padua, Italy.

- ³ Medical Oncology Unit 1, Department of Oncology, Veneto Institute of Oncology IOV - IRCCS, Padua, Italy.
- ⁴ Medical Oncology and Hematology Unit, Humanitas Cancer Center; IRCCS Humanitas Research Hospital, Via Manzoni 56, 20089, Rozzano, Milan, Italy.
- ⁵ Biosciences Laboratory, IRCCS Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori", 47014, Meldola, Italy.
- ⁶ Department of Medical Oncology, IRCCS Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori", Meldola, Italy.
- ⁷ Medical Oncology Unit, IRCCS Istituto Tumori "Giovanni Paolo II" of Bari, Bari, Italy.
- ⁸ Department of Medical Oncology, Università Vita-Salute San Raffaele, IRCCS-Ospedale San Raffaele, Via Olgettina 70, 20132, Milan, Italy.
- ⁹ Department of Surgery, Oncology and Gastroenterology, University of Padua, Padua, Italy.
- ¹⁰ Department of Biomedical Sciences, Humanitas University, Via Rita Levi Montalcini 4, 20090, Pieve Emanuele, Milan, Italy.
- ¹¹ Department of Medicine (DIMED), Surgical Pathology & Cytopathology Unit, University of Padua, Padua, Italy.
- ¹² Department of Pathology, IRCCS Humanitas Research Hospital, Milan, Italy.
- PMID: [33528694](#)
- DOI: [10.1007/s12032-021-01468-z](#)

Abstract

SBA classification is still based on the location of the primary tumor, without genetic information. In the current study, an extensive genetic profile of SBA was performed in order to identify and quantify targetable alterations for a future precision medicine in SBA. Clinical-pathological information for 24 patients affected by SBA were retrospectively reviewed. Whole genome analysis of the primary tumors was performed by the FOUNDATION Cdx technology. We carried out a functional enrichment analysis of the mutated genes with BioPlanet. Integrative clustering analysis revealed three distinct subtypes characterized by different genomic alterations. Cluster 1 exhibited significant correlations with MSI status, high TMB, celiac disease and Jejunal site. We defined cluster 1 as "immunological subtype" (29.2% of patients). Driver mutations in this subtype suggest that 100% of patients may benefit

from immunotherapy. Enrichment analysis of cluster 2 highlighted that the main affected pathway was that of homologous DNA pairing and strand exchange (16.7% of patients). We defined this cluster as "DNA Damage Repair (DDR) like". On the basis of these driver molecular alterations, 100% of patients could benefit from PARPi. Finally, Cluster 3 had no significant correlations with clinical-pathological characteristics (54.1% of patients). Enrichment analysis revealed that this cluster has remarkable similarities with CRA genomic profile, so we defined it as "Colon-like". SBA is a genetically distinct tumor entity and deep mutation heterogeneity indicates that different driver genes play a role in the biology of these tumors. The identification of clusters based on genetic profile suggest the possibility to go beyond chemotherapy in several patients.

Keywords: ATM; BRCA; Celiac disease; Immunotherapy; Microsatellite instability; Molecular; NF43; Parpi; Tumor mutational burden.

- [11 references](#)

Full text links



133. [Assessing Health-Related Quality of Life in Children with Coeliac Disease: The Italian Version of CDDUX](#)

Nutrients. 2021 Feb 2;13(2):485. doi: 10.3390/nu13020485.

Authors

[Marco Crocco](#)^{1 2}, [Angela Calvi](#)³, [Paolo Gandullia](#)³, [Federica Malerba](#)^{1 2}, [Anthea Mariani](#)⁴, [Sonia Di Profio](#)⁵, [Barbara Tappino](#)⁶, [Stefano Bonassi](#)^{7 8}

Affiliations

- ¹ Department of Pediatrics, IRCCS Giannina Gaslini Institute, 16147 Genova, Italy.

- ² Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Child and Maternal Health, University of Genova, 16132 Genova, Italy.
- ³ Gastroenterology and Digestive Endoscopy Unit, IRCCS Giannina Gaslini Institute, 16147 Genova, Italy.
- ⁴ Department of Pediatrics, Ospedale Santo Spirito, 65124 Pescara, Italy.
- ⁵ Psychology Unit, IRCCS Giannina Gaslini Institute, 16147 Genova, Italy.
- ⁶ LABSIEM (Laboratory for the Study of Inborn Errors of Metabolism), IRCCS Giannina Gaslini Institute, 16147 Genova, Italy.
- ⁷ Department of Human Sciences and Quality of Life Promotion, San Raffaele University, 00166 Rome, Italy.
- ⁸ Unit of Clinical and Molecular Epidemiology, IRCCS San Raffaele Pisana, 00166 Rome, Italy.
- PMID: [33540585](#)
- PMCID: [PMC7912899](#)
- DOI: [10.3390/nu13020485](#)

Free PMC article

Abstract

We aimed to assess Health-Related Quality of Life (HRQoL) of Italian children and their parents with coeliac disease (CD) using the Coeliac Disease Dutch Questionnaire (CDDUX). The CDDUX underwent a cross-cultural adaptation in a multi-step process, according to international guidelines. A total of 224 children aged between 8-18 years and their parents were prospectively recruited. Cronbach α coefficient was determined as a measure of internal consistency of the questionnaire and inter-children/parent reliability by intraclass correlation coefficient. Univariate and bivariate regression models were used to evaluate correlations between clinical variables and children and parents subclasses of CDDUX and overall mean Paediatric Quality of Life Inventory (PedsQL). The Italian CDDUX proved to be valid and reliable, mean CDDUX total score revealing a neutral evaluation of the quality of life in children 52.6 ± 17.2 and parents 49.5 ± 17.9 ($p = 0.07$) with strong correlation with PedsQL. The only clinical variable which appeared to affect significantly quality of life both in children and parents was the lower age. A comparison with our results showed remarkable differences in the HRQoL of populations of various nationalities. The Italian version of the CDDUX questionnaire is a

simple and reliable tool for assessing the HRQoL in children and adolescents with CD.

Keywords: CDDUX; Health-Related Quality of Life; children; coeliac disease; disease-specific questionnaire; gluten free diet.

Conflict of interest statement

The authors declare no conflict of interest.

- [25 references](#)
- [2 figures](#)

Full text links



134. [Coeliac disease presenting atypically: A much wider spectrum](#)

Trop Doct. 2021 Feb 11;49475521991348. doi: 10.1177/0049475521991348.
Online ahead of print.

Authors

[Avinash Lomash](#)¹, [Abhinaya Venkatakrishnan](#)², [Meenakshi Bothra](#)³, [Bhavna Dhingra](#)⁴,
[Praveen Kumar](#)⁵, [Seema Kapoor](#)⁶

Affiliations

- ¹ PhD Scholar, Genetic Division, Department of Pediatrics, Maulana Azad Medical College, Lok Nayak Hospital, New Delhi, India.
- ² Senior Resident, Department of Pediatrics, Maulana Azad Medical College, Lok Nayak Hospital, New Delhi, India.
- ³ Assistant Professor, Department of Pediatrics, Maulana Azad Medical College, Lok Nayak Hospital, New Delhi, India.
- ⁴ Assistant Professor, Department of Pediatrics, All India Institute of Medical Sciences, Bhopal, India.
- ⁵ Director Professor, Department of Pediatrics, Lady Hardinge Medical College, Sucheta Kriplani Hospital, New Delhi, India.

- ⁶ Director Professor, Genetic division, Department of Pediatrics, Maulana Azad Medical College, Lok Nayak Hospital, New Delhi, India.
- PMID: [33573512](#)
- DOI: [10.1177/0049475521991348](#)

Abstract

Atypical coeliac disease in young children is frequently missed when it presents atypically as non-gastrointestinal presentations to different specialties. There was a greater delay (54 months) in establishing the diagnosis in those with atypical coeliac disease ($p < 0.001$). No difference was observed in the mode of delivery or duration of breast feeding, but significant difference was observed between gestational age at birth ($p < 0.001$). Most cases showed stunted growth and underweight. Irritability, anaemia, rickets, dermatitis herpetiformis, alopecia and intussusception were other common predictors of atypical coeliac disease. Because of a myriad spectrum of non-gastrointestinal symptoms, at any age with diverse presentation, a high index of suspicion is therefore required.

Keywords: Atypical presentation; spectrum; subclinical celiac disease.

Full text links



135. [50 Years Ago in The Journal of Pediatrics: Association of Type 1 Diabetes Mellitus and Celiac Disease: Then and Now](#)

J Pediatr. 2021 Mar;230:70. doi: 10.1016/j.jpeds.2020.10.050.

Authors

[Jennifer Ni](#) ¹, [Chaitan Khosla](#) ², [David M Maahs](#) ³

Affiliations

- ¹ Division of Pediatric Endocrinology, School of Medicine.

- ² Stanford ChEM-H.
- ³ Division of Pediatric Endocrinology, School of Medicine, Stanford University, Palo Alto, California.
- PMID: [33632400](#)
- DOI: [10.1016/j.jpeds.2020.10.050](#)

No abstract available

136. **Editorial: towards an understanding of increased mortality in coeliac disease- authors' reply**

Aliment Pharmacol Ther. 2021 Mar;53(5):656. doi: 10.1111/apt.16246.

Authors

[Carolyn V Schneider](#) ^{1 2}, [Pavel Strnad](#) ²

Affiliations

- ¹ The Institute for Translational Medicine and Therapeutics, The Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.
- ² Medical Clinic III, Gastroenterology, Metabolic diseases and Intensive Care, University Hospital RWTH Aachen, Aachen, Germany.
- PMID: [33566418](#)
- DOI: [10.1111/apt.16246](#)

No abstract available

- [6 references](#)

137. **Novel parameters characterizing size distribution of A and B starch granules in**

the gluten network: Effects on dough stability in bread wheat

Carbohydr Polym. 2021 Apr 1;257:117623. doi: 10.1016/j.carbpol.2021.117623. Epub 2021 Jan 10.

Authors

[Liwei Yu](#)¹, [Lei Guo](#)¹, [Yingchun Liu](#)¹, [Yanrong Ma](#)¹, [Jianchu Zhu](#)¹, [Yang Yang](#)¹, [Donghong Min](#)¹, [Yanzhou Xie](#)¹, [Mingxun Chen](#)¹, [Jingyang Tong](#)², [Ata-Ur Rehman](#)³, [Zhonghua Wang](#)⁴, [Xinyou Cao](#)⁵, [Xin Gao](#)⁶

Affiliations

- ¹ State Key Laboratory of Crop Stress Biology in Arid Areas and College of Agronomy, Northwest A&F University, Yangling, Shaanxi 712100, China.
- ² Institute of Crop Sciences/National Wheat Improvement Center, Chinese Academy of Agricultural Sciences, Beijing 100081, China.
- ³ Graham Centre for Agricultural Innovation, Charles Sturt University, Wagga Wagga, NSW 2650, Australia.
- ⁴ State Key Laboratory of Crop Stress Biology in Arid Areas and College of Agronomy, Northwest A&F University, Yangling, Shaanxi 712100, China. Electronic address: zhwangnew@126.com.
- ⁵ Crop Research Institute, Shandong Academy of Agricultural Sciences/National Engineering Laboratory for Wheat and Maize/Key Laboratory of Wheat Biology and Genetic Improvement in North Yellow and Huai River Valley, Ministry of Agriculture, Jinan 250100, China. Electronic address: caoxinyou@126.com.
- ⁶ State Key Laboratory of Crop Stress Biology in Arid Areas and College of Agronomy, Northwest A&F University, Yangling, Shaanxi 712100, China. Electronic address: bestgaoxin@nwsuaf.edu.cn.
- PMID: [33541650](#)
- DOI: [10.1016/j.carbpol.2021.117623](https://doi.org/10.1016/j.carbpol.2021.117623)

Abstract

Our study on six wheat genotypes has revealed strong interaction between gluten and starch to affect dough stability. To establish gluten-starch interaction and its roles in dough stability, we randomly selected 16 wheat genotypes and investigated the physicochemical properties of gluten and starch. The manner in which the starch granules occupied available space in gluten network was quantitatively analyzed using gluten lacunarity and proportion of different sized A-type and B-type starch granules. Positive correlations were found between the morphological attributes (B/A/Lacunarity, B/Lacunarity) and dough stability. The correlation coefficient between B/A/Lacunarity and dough stability was highest, followed by the percentage of unextractable polymeric protein (UPP%), B/Lacunarity and dough stability. Dough mixing properties were strongly affected by gluten-starch interactions, as indicated by novel parameters. Whereas the effect of gluten on its own did not provide any evidence to suggest its concrete role in dough mixing properties because of the various genetic backgrounds.

Keywords: Interaction between gluten and starch; Physicochemical properties of gluten and starch; Regression analysis; Wheat dough.

Copyright © 2021 Elsevier Ltd. All rights reserved.

Full text links



138. [The quality of gluten-free bread made of brown rice flour prepared by low temperature impact mill](#)

Food Chem. 2021 Jun 30;348:129032. doi: 10.1016/j.foodchem.2021.129032.
Epub 2021 Jan 12.

Authors

[Shunjing Luo](#)¹, [Xudong Yan](#)¹, [Yuteng Fu](#)¹, [Min Pang](#)², [Ruiyun Chen](#)¹, [Yunfei Liu](#)³, [Jun Chen](#)⁴, [Chengmei Liu](#)⁵

Affiliations

- ¹ State Key Laboratory of Food Science and Technology, Nanchang University, No. 235 Nanjing East Road, Nanchang 330047, China.
- ² Guilin Guiliu Modern Food Co, Ltd, Changjiang East Road, Guilin 541805, China.
- ³ Institute of Applied Chemistry, Jiangxi Academy of Sciences, 7777 Changdong Avenue, Nanchang 330096, China.
- ⁴ State Key Laboratory of Food Science and Technology, Nanchang University, No. 235 Nanjing East Road, Nanchang 330047, China.
Electronic address: chen-jun1986@hotmail.com.
- ⁵ State Key Laboratory of Food Science and Technology, Nanchang University, No. 235 Nanjing East Road, Nanchang 330047, China.
Electronic address: liuchengmei@aliyun.com.
- PMID: [33508598](https://pubmed.ncbi.nlm.nih.gov/33508598/)
- DOI: [10.1016/j.foodchem.2021.129032](https://doi.org/10.1016/j.foodchem.2021.129032)

Abstract

Our previous work reported that the brown rice flour prepared by low temperature impact mill possessed excellent physicochemical properties. The performance of brown rice flour in making gluten-free bread was further investigated. It was found that the starch crystal structure was destroyed and the damaged starch content increased as the particle size of brown rice flour decreased. The interaction between the starch and water in the model dough and the matrix structures among the endosperm masses were enhanced as the particle size decreased, making the gluten-free dough more viscoelastic. However, dough made with finer flour was too sticky, which limited the expansion of dough. Gluten-free bread prepared with medium-sized brown rice flour had favorable quality characterized by large specific volume, low hardness, numerous and homogeneous gas cells.

Keywords: Brown rice; Dough; Gluten-free bread; Low temperature impact mill; Particle size.

Copyright © 2021 Elsevier Ltd. All rights reserved.

Full text links



139. [Association Between Collagenous and Lymphocytic Colitis and Risk of Severe COVID-19](#)

Gastroenterology. 2021 Feb 18;S0016-5085(21)00417-0. doi: 10.1053/j.gastro.2021.02.029. Online ahead of print.

Authors

[Hamed Khalili](#)¹, [Tenghao Zheng](#)², [Jonas Söderling](#)³, [Emma Larsson](#)⁴, [COVID-19 and microscopic colitis collaborators](#); [Mauro D'Amato](#)⁵, [Jonas F Ludvigsson](#)⁶

Affiliations

- ¹ Clinical and Translational Epidemiology Unit and Division of Gastroenterology, Massachusetts General Hospital, Boston, MA, USA; The Broad Institute of MIT and Harvard, Cambridge MA, USA.
- ² Clinical Epidemiology Division, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden; Center for Molecular Medicine, Karolinska Institutet, Stockholm, Sweden; School of Biological Sciences, Monash University, Clayton VIC, Australia.
- ³ Clinical Epidemiology Division, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden.
- ⁴ Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm Sweden.
- ⁵ Clinical Epidemiology Division, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden; Center for Molecular Medicine, Karolinska Institutet, Stockholm, Sweden; School of Biological Sciences, Monash University, Clayton VIC, Australia. Electronic address: jonasludvigsson@yahoo.com.
- ⁶ Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden; Department of Pediatrics, Örebro University Hospital, Örebro, Sweden; Division of Epidemiology and Public Health, School of Medicine, University of Nottingham,

Nottingham, United Kingdom; Celiac Disease Center, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, United States. Electronic address: mdamato@cicbiogune.es.

- PMID: [33610527](#)
- PMCID: [PMC7892313](#)
- DOI: [10.1053/j.gastro.2021.02.029](#)

Free PMC article

No abstract available

Full text links



140. [The first Saudi baby with classic homocystinuria diagnosed by universal newborn screening](#)

Saudi Med J. 2021 Feb;42(2):219-222. doi: [10.15537/smj.2021.2.25643](#).

Authors

[Talal AlAnzi](#)¹, [Fahad J Al Harbi](#)¹, [Joharah AlFaifi](#)¹, [Sara Mohamed](#)¹

Affiliation

- ¹ From the Department of Pediatrics (AlAnzi, Mohamed); from the Department of Biochemical laboratory (Al Harbi, AlFaifi), Prince Sultan Military Medical City; from the Prince Abdullah bin Khalid Celiac Disease Research Chair (Mohamed), King Saud University; and from the Department of Pediatrics (Mohamed), College of Medicine, Alfaisal University, Riyadh, Kingdom of Saudi Arabia.
- PMID: [33563743](#)
- DOI: [10.15537/smj.2021.2.25643](#)

Free article

Abstract

Classic homocystinuria (CH) is an inborn error of metabolism caused by cystathionine beta-synthase enzyme deficiency. Affected patients present with intellectual disability and other comorbidities. If diagnosed early in infancy and started treatment, inevitable complications can be prevented. Newborn screening (NBS) uses tandem mass-spectroscopy (MSMS) to measure the amino acid levels. In CH, the first-tier screening test is the measurement of methionine by MSMS. If methionine remained elevated in the recall sample, plasma level for homocysteine is performed. A newborn infant underwent routine NBS in our institute that showed elevated methionine in the first and the recall sample. Thereafter, total serum homocysteine was found to be elevated, consistent with the diagnosis of CH. An early medical and dietary management was commenced for this first Saudi baby diagnosed with homocystinuria by universal NBS. This report demonstrates that NBS for CH is feasible and effective in preventing the disease burden.

Keywords: CBS gene; homocystinuria; newborn; screening.

Copyright: © Saudi Medical Journal.

Full text links



141. [Conversion pancreaticoduodenectomy with dual arterial reconstructions for locally advanced pancreatic cancer: Case report and literature review](#)

Int J Surg Case Rep. 2021 Feb 22;80:105692. doi: 10.1016/j.ijscr.2021.105692. Online ahead of print.

Authors

[Yasutoshi Kimura](#)¹, [Masafumi Imamura](#)², [Tatsuya Itoh](#)³, [Takatoshi Yotsuyanagi](#)⁴, [Nobuyoshi Kawaharada](#)⁵, [Ichiro Takemasa](#)⁶

Affiliations

- ¹ Department of Surgery, Surgical Oncology and Science, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: kimuray@sapmed.ac.jp.
 - ² Department of Surgery, Surgical Oncology and Science, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: imamura@sapmed.ac.jp.
 - ³ Department of Surgery, Surgical Oncology and Science, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: ito.tatsuya@sapmed.ac.jp.
 - ⁴ Plastic and Reconstructive Surgery, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: yotsuyanagi@sapmed.ac.jp.
 - ⁵ Cardiovascular Surgery, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: nobuyosh@sapmed.ac.jp.
 - ⁶ Department of Surgery, Surgical Oncology and Science, Sapporo Medical University School of Medicine, S1 W16, Chuo-ku, Sapporo, Hokkaido, 060-8543, Japan. Electronic address: itakemasa@sapmed.ac.jp.
- PMID: [33639500](#)
 - DOI: [10.1016/j.ijscr.2021.105692](#)

Free article

[Abstract](#)

Introduction: Extended pancreatectomy for initially unresectable locally advanced (URLA) pancreatic carcinoma (PC) often requires combined arterial resection/reconstruction. By limiting candidate arterial inflow after combined resection of the celiac arterial system over a long distance, great saphenous vein graft (GSVG) is an alternative conduit for obtaining non-anatomical arbitrary arterial inflow.

Presentation of case: A 66-year-old woman was diagnosed with URLA pancreatic head carcinoma involving the region from the celiac axis (CA) to the common hepatic and proximal splenic artery (SA). She received 10 courses of

modified FOLFIRINOX followed by concurrent chemoradiotherapy including S1 with favorable response. The duration of disease control and normalization of serum carbohydrate antigen 19-9 (CA19-9) exceeded 10 months, and conversion surgery was planned. Extended pancreaticoduodenectomy (PD) required concomitant resection of the CA to the proper hepatic and SA. The dual arterial reconstructions involved a GSVG interposition from the abdominal aorta to the distal SA to preserve the entire stomach, and from the mesenteric second jejunal artery to the right hepatic artery. The patient achieved pathological R0 resection with a histological response of Evans grade IIB.

Discussion: Reconstruction of the distal SA with GSVG in extended PD enabled preservation of the subtotal stomach and distal pancreas, even when the root of the CA was transected.

Conclusion: Multiple arterial reconstructions using GSVG might be useful in extended pancreatectomy to preserve visceral organs, offer better quality of life in terms of oral intake and nutritional status, and control blood glucose than after total pancreatectomy concomitant with subtotal gastrectomy.

Keywords: Arterial reconstruction; Great saphenous vein; Non-anatomical; Pancreatectomy.

Copyright © 2021. Published by Elsevier Ltd.

Full text links



142. [**Onset of Suspected Ulcerative Colitis After Treatment With Tocilizumab in Patient With Celiac Disease and Juvenile Idiopathic Arthritis**](#)

Inflamm Bowel Dis. 2021 Feb 22;izab036. doi: 10.1093/ibd/izab036. Online ahead of print.

Authors

[Raffaele Borghini](#)¹, [Mariavittoria Vescovo](#)², [Carla Giordano](#)², [Giuseppe Donato](#)¹, [Antonio Picarelli](#)¹

Affiliations

- ¹ Department of Translational and Precision Medicine, Sapienza University, Rome, Italy.
- ² Department of Radiological, Oncological and Pathological Sciences, Sapienza University, Rome, Italy.
- PMID: [33616165](#)
- DOI: [10.1093/ibd/izab036](#)

No abstract available

Keywords: celiac disease; humanized anti-IL-6 receptor; inflammatory bowel diseases; juvenile idiopathic arthritis; tocilizumab; ulcerative colitis.

Full text links



143. [The Celiac Disease Microbiome Depends on the PC's of the Puzzle](#)

Gastroenterology. 2021 Feb 10;S0016-5085(21)00410-8. doi: 10.1053/j.gastro.2021.02.023. Online ahead of print.

Authors

[Martin Tobí](#)¹, [Harvinder Talwar](#)², [Benita McVicker](#)³

Affiliations

- ¹ Research and Development Service, Detroit VAMC and Central Michigan University, Saginaw MI.

- ² Research and Development Service, Detroit VAMC and Department of Internal, Medicine, Wayne State University, Detroit MI.
- ³ Research Service, VA Nebraska-Western Iowa Health Care System and the University of Nebraska Medical Center, Omaha, NE.
- PMID: [33581121](#)
- DOI: [10.1053/j.gastro.2021.02.023](#)

No abstract available

Full text links



144. [Bone Marrow Suppression Associated With Celiac Disease in a 4-Year-Old Boy](#)

ACG Case Rep J. 2021 Feb 23;8(2):e00538. doi: 10.14309/crj.0000000000000538. eCollection 2021 Feb.

Authors

[Ashleigh Watson](#) ¹, [Julie Kolinski](#) ¹, [Mariko Suchi](#) ², [Abdul Elkadri](#) ¹

Affiliations

- ¹ Department of Pediatrics, Medical College of Wisconsin, Milwaukee, Wisconsin.
- ² Department of Pathology, Medical College of Wisconsin, Milwaukee, Wisconsin.
- PMID: [33644248](#)
- PMCID: [PMC7904273](#)
- DOI: [10.14309/crj.0000000000000538](#)

Abstract

Celiac disease is an immune-mediated process against gluten, resulting in inflammation and villous atrophy of the duodenum. Symptoms of malabsorption characterize the classic presentation; however, abdominal

pain, constipation, and nutritional deficiencies can also be seen. We present a case of a 4-year-old boy who was found to have celiac disease after presenting with diarrhea, abdominal pain, weight loss, and new-onset pancytopenia. Symptoms resolved, and laboratory values normalized after the initiation of a gluten-free diet, indicating the bone marrow suppression was due to celiac disease, which needs to be considered when hematologic abnormalities are present, even in the absence of gastrointestinal symptoms.

© 2021 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of The American College of Gastroenterology.

145. **Oncovascular Resection of a
Ganglioneuroma Involving the Coeliac
Trunk and Hepatic Artery-A Case Report**

Vasc Endovascular Surg. 2021 Feb 15;1538574421994414. doi:
10.1177/1538574421994414. Online ahead of print.

Authors

[Kateřina Lawrie](#)¹, [Adam Whitley](#)^{1 2}, [Slavomír Rokošný](#)¹, [Jan Bafrnec](#)¹, [Robert Gürlich](#)¹,
[Peter Baláž](#)^{1 3}

Affiliations

- ¹ Department of Surgery, Faculty Hospital Kralovske Vinohrady, Prague, Czech Republic.
- ² Department of Anatomy, Second Faculty of Medicine, Charles University, Prague, Czech Republic.
- ³ Department of Vascular Surgery, National Institute for Cardiovascular Disease, Bratislava, Slovakia.
- PMID: [33583359](#)
- DOI: [10.1177/1538574421994414](#)

Abstract

A large tumorous mass completely surrounding and compressing the coeliac trunk was identified on computed tomography in a young woman with a six-

month history of progressive abdominal pain. The tumor was excised along with the coeliac trunk and the proximal parts of its branches. The hepatic artery was reconstructed with an aorto-hepatic autogenous bypass. Postoperatively the patient had neurogenic diarrhea, which subsided on medical treatment. Seven months after surgery the patient is in a good state of health and living a normal life.

Keywords: aorto-hepatic bypass; coeliac trunk; ganglioneuroma; oncovascular surgery.

Full text links



146. [Prospective study using villous length morphometry as an adjunctive tool to assess modified marsh grade in patients with coeliac disease](#)

Trop Doct. 2021 Feb 10;49475521991350. doi: 10.1177/0049475521991350. Online ahead of print.

Authors

[Sandhu Jashan](#)¹, [Vijay K Dubey](#)², [Suri Vijay](#)²

Affiliations

- ¹ Assistant Professor, Pathology at Gian Sagar Medical College, Patiala, India.
- ² Professor and Head - Department of Pathology, Adesh Institute of Medical Sciences and Research, Bathinda, India.
- PMID: [33568000](#)
- DOI: [10.1177/0049475521991350](#)

Abstract

Celiac disease, an autoimmune disease, is caused by ingestion of gluten in genetically susceptible individuals. The currently used modified-Marsh grading, used to assess mucosal injury, is fraught with interobserver and intraobserver variability. The aim is to reduce this variability by villous length morphometry. Our prospective study was conducted on newly diagnosed cases of celiac disease that were assessed by serohaematological profile, and duodenal biopsies were evaluated by modified Marsh grading. Villous length was measured in Grades 2, 3a and 3b using an eyepiece graticule lens calibrated with a stage micrometer. Severity of mucosal injury in different Marsh grades was significantly correlated to mean villous length, elevation of mean IgA tTG and drop in haemoglobin.

Keywords: Celiac disease; duodenal histology; gluten sensitivity; villous atrophy.

Full text links



147. [Endovascular Repair for a Penetrating Injury of the Abdominal Aorta at the level of the Celiac Trunk](#)

J Vasc Interv Radiol. 2021 Feb 17;S1051-0443(21)00320-1. doi: 10.1016/j.jvir.2021.01.274. Online ahead of print.

Authors

[Miju Bae](#)¹, [Chang Ho Jeon](#)², [Chang Won Kim](#)²

Affiliations

- ¹ Department of Thoracic and Cardiovascular Surgery, Pusan National University Hospital, 179 Gudeok-ro, Seo-gu, Busan 49241, Republic of Korea; Biomedical Research Institute, Pusan National University Hospital, 179 Gudeok-ro, Seo-gu, Busan 49241, Republic of Korea.

- ² Department of Radiology, Pusan National University Hospital, 179 Gudeok-ro, Seo-gu, Busan 49241, Republic of Korea.
- PMID: [33610433](#)
- DOI: [10.1016/j.jvir.2021.01.274](#)

No abstract available

Full text links



148. [Single-cell TCR repertoire analysis reveals highly polyclonal composition of human intraepithelial CD8⁺ αβ T lymphocytes in untreated celiac disease](#)

Eur J Immunol. 2021 Feb 9. doi: [10.1002/eji.202048974](#). Online ahead of print.

Authors

[Linn M Eggesbø](#)¹, [Louise F Risnes](#)^{1 2}, [Ralf S Neumann](#)¹, [Knut E A Lundin](#)^{1 3}, [Asbjørn Christophersen](#)¹, [Ludvig M Sollid](#)^{1 2}

Affiliations

- ¹ K. G. Jebsen Centre for Coeliac Disease Research, University of Oslo, Oslo, Norway.
- ² Department of Immunology, University of Oslo and Oslo University Hospital- Rikshospitalet, Oslo, Norway.
- ³ Department of Gastroenterology, Oslo University Hospital- Rikshospitalet, Oslo, Norway.
- PMID: [33559929](#)
- DOI: [10.1002/eji.202048974](#)

Abstract

We compared the $\alpha\beta$ T-cell receptor repertoires of CD8⁺ $\alpha\beta$ intraepithelial lymphocytes from celiac disease patients and healthy subjects by single-cell sequencing. We demonstrate that the repertoires of untreated celiac disease patients were more polyclonal and more diverse than what was observed in both treated patients and healthy subjects.

Keywords: CD8⁺ $\alpha\beta$ T cells; TCR; celiac disease; intraepithelial lymphocytes; single cell sequencing.

© 2021 The Authors. European Journal of Immunology published by Wiley-VCH GmbH.

- [9 references](#)

Full text links



149. [Letter: improved parsimony of genetic risk scores for coeliac disease through refined HLA modelling](#)

Aliment Pharmacol Ther. 2021 Mar;53(6):759-760. doi: 10.1111/apt.16263.

Authors

[Michael Erlichster](#)¹, [Justin Bedo](#)¹, [Efstratios Skafidas](#)¹, [Patrick Kwan](#)¹, [Adam Kowalczyk](#)^{1 2}, [Benjamin Goudey](#)¹

Affiliations

- ¹ Melbourne, VIC, Australia.
- ² Canberra, ACT, Australia.
- PMID: [33599319](#)
- DOI: [10.1111/apt.16263](#)

No abstract available

- [3 references](#)

150. **Iron Deficiency Anemia Refractory to Conventional Therapy but Responsive to Feralgine[®] in a Young Woman with Celiac Disease**

Int Med Case Rep J. 2021 Feb 16;14:89-93. doi: 10.2147/IMCRJ.S291599. eCollection 2021.

Authors

[Valentina Talarico](#)¹, [Laura Giancotti](#)², [Roberto Miniero](#)¹, [Marco Bertini](#)³

Affiliations

- ¹ Department of Pediatric, Pugliese-Ciaccio Hospital, Catanzaro, Italy.
- ² Unit of Pediatrics, University "Magna Graecia", Catanzaro, Italy.
- ³ R&D Department, Laboratori Baldacci SpA, Pisa, Italy.
- PMID: [33628062](#)
- PMCID: [PMC7897862](#)
- DOI: [10.2147/IMCRJ.S291599](#)

Free PMC article

[Abstract](#)

Iron, which is an important micronutrient in the human body may be deficient in people with celiac disease (CD). Iron deficiency anemia (IDA) may be the presenting feature of celiac disease, also in the absence of diarrhea or weight loss. The treatment of IDA in patient with CD is primarily a gluten-free-diet (GFD), but it is also very important oral iron supplementation until the iron stores have been restored. However, a frequent problem in CD is the poor tolerability and poor efficacy of oral iron preparations. A new product, consisting of the combination of Ferrous Bysglycinate Chelate and Sodium

Alginate (Feralgine™), has been demonstrated to be more bioavailable and well tolerated in CD. We present a case report that showed a clear efficacy of this product in a form of IDA refractory to conventional therapy in a woman with CD and we demonstrated a clear increase of serum iron after administration of this new type of ferrous.

Keywords: OIAT; celiac disease; ferrous bisglycinate chelate; iron deficiency anemia; sodium alginate.

© 2021 Talarico et al.

Conflict of interest statement

The authors declare no conflict of interest and any financial support.

- [22 references](#)
- [1 figure](#)

Full text links



151. [The role of female endoscopists: are women gastroenterologists better at obtaining biopsies for celiac disease than men?](#)

Scand J Gastroenterol. 2021 Feb 18;1-3. doi: 10.1080/00365521.2021.1887926. Online ahead of print.

Authors

[Claire L Jansson-Knodell](#)¹, [William R Kessler](#)¹

Affiliation

- ¹ Division of Gastroenterology and Hepatology, Department of Medicine, Indiana University, Indianapolis, IN, USA.
- PMID: [33599184](#)
- DOI: [10.1080/00365521.2021.1887926](#)

Abstract

Objectives: Celiac disease (CD) is commonly found in women. Given the sex differences in diagnosed patients, we hypothesized sex differences in physicians obtaining biopsies for CD may exist.

Materials and methods: We retrospectively reviewed duodenal biopsies for suspected CD excluding pre-existing CD patients. Appropriate biopsy practice was defined as ≥ 5 specimens per ACG guidelines.

Results: We included 125 patients (females, 92). There were 85 properly (68%) biopsied. Presence of a female endoscopist was associated with better adherence to biopsy guidelines (OR, 2.99, 95% CI, 1.19-7.54; $p = .02$) which remained significant after multivariable adjustment (adjusted OR, 2.7; $p = .047$).

Conclusions: Physician sex-based differences in biopsy patterns may exist.

Keywords: Sprue; diagnosis; duodenal biopsy; gender; practice patterns; sex.

Full text links

